

THE GEOGRAPHICAL MAGAZINE

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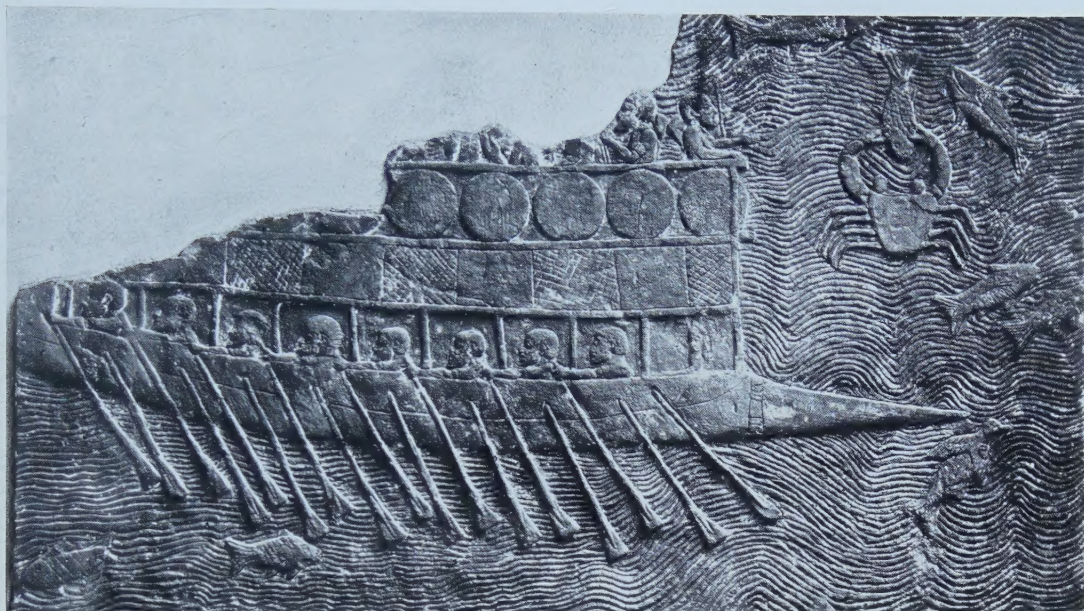
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Ships in Stone



W. F. Mansell

This Tyrian galley is depicted on an Assyrian marble slab from Nineveh, of the reign of Sennacherib (705-681 B.C.). It provides evidence for the theory that the Phoenicians were the first to make use of the principle of banked oars

A Roman two-banked ship of war from a relief, of about A.D. 50, found in the Temple of Fortune at Praeneste, near Rome. The crocodile carved on the side shows that the ship was called the Nile. It bears (like the Phoenician ship above) a decorative line of shields

Musée St. Germain





A ship on a Roman sarcophagus, of the 2nd or 3rd century A.D., unearthed at Sidon. Does it reveal the profession of the deceased, who may have been one of those privateers whose activities contributed so much to Sidon's power; or does the vessel simply represent the soul's journey after death, which the ancients often represented as a crossing? Anyhow the sculptor has rendered the ship very exactly—the sail, the ropes, the oar that serves as the rudder, and the quarter-deck ending in a swan's head

The story of Jonah and the whale is told on an early Christian sarcophagus of about A.D. 350. Jonah is seen being cast from a sailing boat into the creature's maw. Above the ship a personification of the 'great wind' which 'the Lord sent out into the sea' blows on to the sail. Behind the sail is a figure of the sun

Service des Antiquités Rep. Française en Syrie



Alinari



J. T. T. Fletcher

On the great Buddhist stupa at Borobudur, Java (probably 8th century A.D.), emigrants are seen in supplication before the family which is to receive them into its dwelling. The ship, two-masted and square-sailed, is steadied by the outrigger which is still common in the Malay Archipelago

A relief on the Bayon temple at Angkor Thom (A.D. 889-910) showing the Khmer, the ancient rulers of Cambodia, defending themselves against invaders who arrive, wearing hats like upturned flowers, in long boats, propelled by a single rank of rowers

J. T. T. Fletcher



SIXTEENTH-CENTURY SHIPS IN A DEVONSHIRE CHURCH

(Opposite) A carving in Tiverton Church of a war galley with seven oars worked from an outrigger. Maltese crosses on the sails suggest that it belonged to the knights of St John. The church was enlarged and partly rebuilt about 1517 by John Greenway, a prosperous London merchant and a native of Tiverton



Apollo

(Below) An English three-master lying at anchor, with the crew, armed with halberds, manning the deck. The monogram 'I. G.' in the upper left-hand corner is a possible indication that the vessel belonged to John Greenway himself



(Above) A three-masted ship, with sails furled, on the west wall of the nave of Tiverton Church. The vessel carries the English flag—and shows close-ups of her crew!

The Story of the 'Buffalo'

by JOHN PETER TURNER

Human greed and lust for destruction have seldom been displayed to worse effect than in the orgy of slaughter which all but exterminated the North American 'buffalo'. But the amazing story recounted by Mr Turner has also its good side: the rescue of the scattered remnants through the efforts of a few individuals, and their re-establishment in the National Parks of Canada

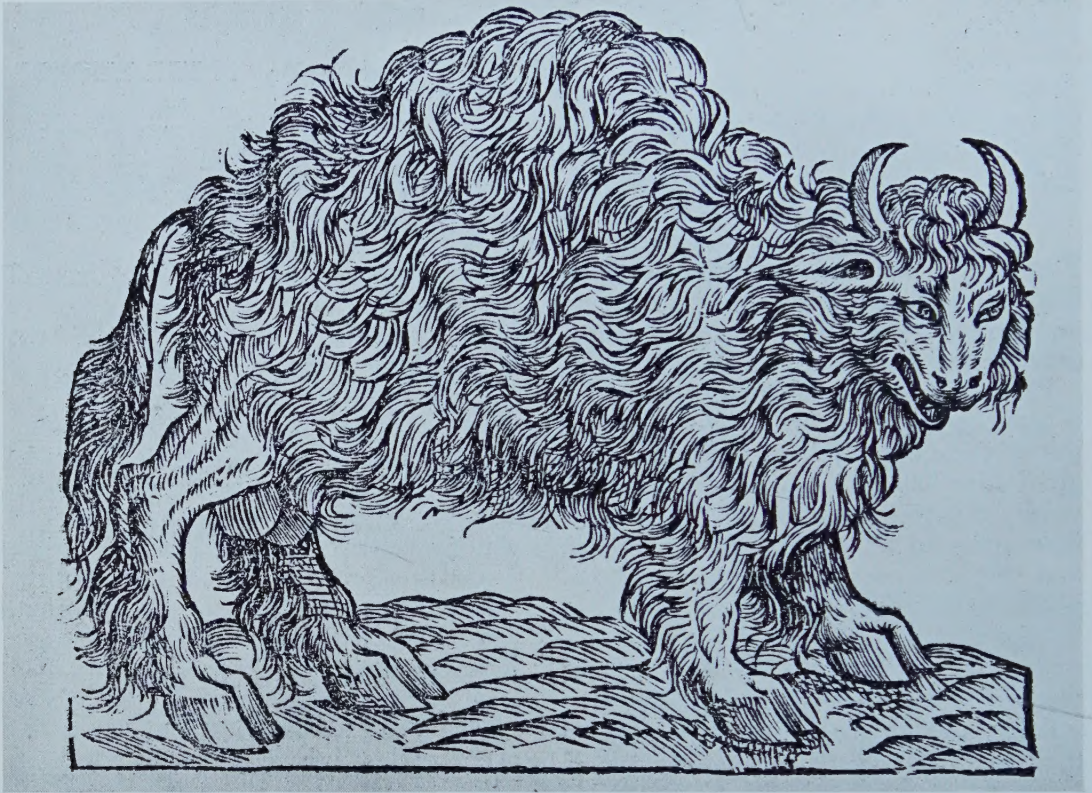
THE story of the American bison, or 'buffalo', as it is more generally called, marches hand in hand with a long record of historical and geographical romance.

Far in the past, in the Pleistocene epoch—that vague period in which were produced the huge wild ox of Europe, the great Irish 'elk', the hairy mammoth, the woolly rhinoceros and other large-bodied mammals—in those dim ages when Asia and America were still joined by land, giant bisons, some with a horn-spread of nearly six feet (as attested by remains), roamed over the central portions of the western continent—progenitors of the smaller, though still ponderous bison of the early West.

Through the long centuries America slumbered unmindful of the inevitable spread of civilized mankind, till, four hundred and fifteen years ago, Hernando Cortes and his following of horse and foot visited the menagerie of Montezuma, the Aztec emperor of Mexico, to find there a strange, cloven-footed beast with 'crooked Shoulders, a Bunch on its Back like a Camel, its Flanks dry, its Tail large, and its Neck covered with Hair like a Lion'. Thus was presented to a wondering world the first account of the American bison, while incidentally there had come to America the first European horse, the forebear of the Indian pony or mustang.

Contrary to a very general belief today, buffalo were not always confined to the treeless grasslands of the further west; their original range—stretching from the Atlantic seaboard to the Sierra Nevada and from northern Mexico to the sub-Arctic—only shrank with the influx of trans-Atlantic

emigration and the resultant conquest of the red man. In 1530, nine years after Cortes had paused long enough in his bloodthirsty task to view the menagerie at Anahuac, the Aztec capital, Alvar Nuñez Cabeza, a Spanish explorer, was wrecked near the mouth of the Mississippi on what was to be the Texas shore, there to be the first recorder of the American bison in a wild state. Twelve years later the daring Francisco Coronado, the discoverer of the famous Grand Canyon of the Colorado and the first white man to penetrate deeply the North American interior, approached from the south-west, through what is now Arizona, and saw herds of 'Crooke-backed oxen', as they were described by one of his followers. In 1612, Sir Samuel Argoll, an English navigator, found buffalo near the site of the present United States Capitol at Washington. The year 1679 saw Father Hennepin among endless herds where Chicago was later to arise. Fifty years later, Colonel William Byrd, a surveyor, and evidently a student of good things, ate fresh buffalo steaks in Virginia near the Atlantic littoral and found them 'of all Varietys the most agreeable'. Abundant records exist of buffalo in Pennsylvania, Tennessee, Kentucky, South Carolina and Georgia, and well-authenticated herds roamed through the country now comprising Louisiana and Mississippi. In 1687 La Hontan encountered 'beeves' along the southern shores of Lake Erie, not far from where the city of Buffalo stands today. Lemoine d'Iberville from the St Lawrence found them on the site of the present city of New Orleans in 1699; and George Washington mentions in his diary



British Museum

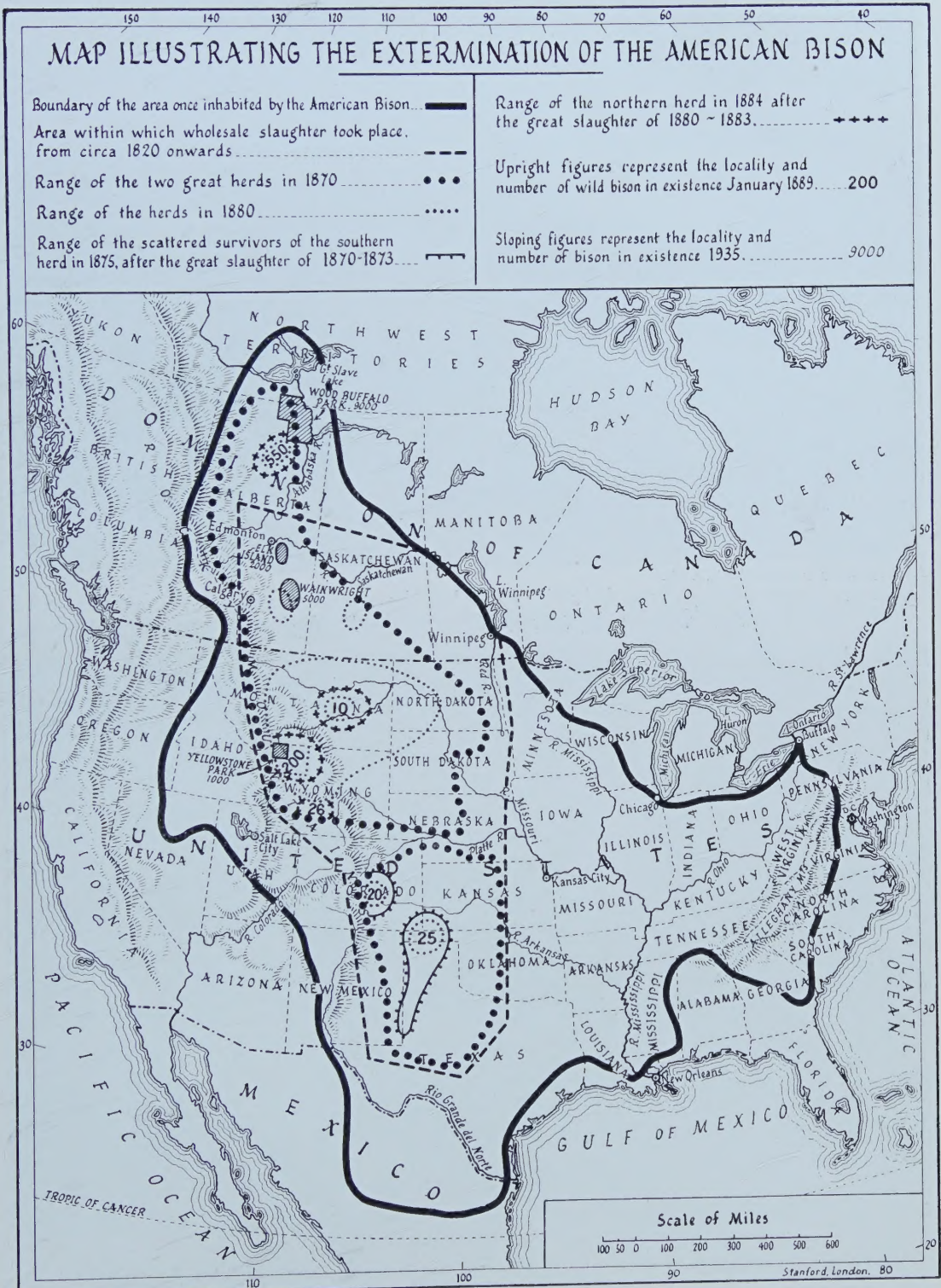
The earliest-known picture of the American bison or 'buffalo', from Thevet's Les Singularitez de la France Antarctique (1558). A contemporary translation reads: 'a kind of great Bulle, having hornes a foote long, and on the back a croupe like to a Camell, the heare long all about the bodie'

that on a voyage down the Ohio River before the revolution he shot a buffalo from his barge. Westward, wherever there was pasture there were buffalo, and in 1820 Sir John Franklin recorded a few at Slave Point on the shore of Great Slave Lake in the far north, a matter of 2900 miles, as wild geese fly, from the delta of the Mississippi.

Early in the 18th century the horses of the Spaniards had spread to the Indian tribes of the plains who had previously hunted on foot or in canoes, and the change in method of travel and transport—the utmost boon to Indian nomad life—had evolved the peerless native horsemen of the American West. About the same period the tide of emigration from Europe

had pushed the eastern flank of the buffalo horde beyond the Alleghany Mountains, almost to the Mississippi. North-westward the range of the bison extended through what is now Indiana, Illinois and Iowa, while a host beyond all computation roamed back and forth from the Mississippi to the Rockies and from the Rio Grande to the Saskatchewan. Almost the entire trans-Mississippi country was one vast buffalo pasture.

Probably few large quadrupeds had ever lived upon the earth in such prodigious numbers, and all who penetrated the country of the plains conceived it beyond the range of possibility that so great a multitude could ever be exterminated. But it was soon made apparent that so





From a painting by George Catlin, c. 1832

Public Archives of Canada

Systematic buffalo-killing was in full swing by the 'thirties of the last century. The red man, urged on by the encroaching white, took by 1840 an annual toll of some 35,000 beasts



From a painting by George Catlin, c. 1832

Public Archives of Canada

Buffalo dance of the now extinct Mandan Indians to induce buffalo to come within hunting range. It never failed, since it was kept going, night and day, till the buffalo appeared

THE STORY OF THE 'BUFFALO'

promising a land could not be given over to millions of wild cattle; and, with unexampled greed and wastefulness, an era of slaughter was begun. From 1820 to 1880 the plains were strewn ever more thickly with a wreckage of skulls and bones. Yet toward the end of the period herds were still seen that covered a computed area of a thousand square miles, and that in massed formation.

It is possible that without the buffalo the winning of the West might have been delayed by half a century. The first organized hunting on a large scale began as an essential of frontier life with the Red River (Manitoba) Métis or half-breeds in 1820. By 1840 this annual hunt had developed to comprise 1600 people, more than 1000 horses, 600 oxen, 1200 carts and 1250 skinning knives, besides other camp equipment and utensils. An average toll of some 35,000 animals resulted annually from this

systematic killing, upon which the Hudson's Bay Company employees and the initial settlers at the north-easterly gateway to the plains depended for an indispensable staff of life.

Economically the buffalo had proved to be the most valuable wild animal in North America. In the matter of food and clothing it had served the first colonists as no other animal could possibly have done. But the destruction of the herds, though inevitable, took on the aspect of a shameful blot upon the ethics of civilized mankind. Never had the world conceived a carnage so appalling. Tens of thousands of splendid creatures—probably the finest ruminants to tread the earth—forfeited their lives for their tongues alone; millions went under for their hides; untold numbers died to satisfy a craven lust. Buffalo-killing became a business of first magnitude and the paramount pastime of all who journeyed



From a painting by George Catlin, c. 1832

White man and Indian combined, on all the buffalo ranges of the West, in a carnival of slaughter

to the plains with firearms. Urged on by the white man's greed, the Sioux, Pawnees, Omahas and other tribes, mounted on their trained buffalo ponies, entered upon a veritable carnival of slaughter, thereby hastening their own destruction. Railways appeared, and eager hunters swarmed to the buffalo ranges of the West. The Oregon wagon trail from Independence, Missouri, to Salt Lake City and beyond brought thousands upon thousands of land-seekers and adventurers to a land of promise—all dependent upon the buffalo. Pressed farther and farther back, the herds retreated from the main lines of caravan travel, and by 1867 the buffalo of the plains were divided into two great general herds by the building of the Union Pacific Railway.

Of the southern herd thousands were killed, never to be skinned. Thousands more died lingering deaths to feed the

wolves and crows. America had gone buffalo mad. Soon the slaughter was being carried on by paid marksmen and the skinning augmented by horse-power—the skin opened, torn back, and attached to whiffle-trees. Death streamed upon the plains as the old Hudson's Bay trade guns and Sharp's rifles took their toll. Each hide marketed meant from three to five dead buffalo, such was the waste. Killing reached its peak in 1873; in that year the railway from Atchison (Kansas) to Santa Fé (New Mexico) carried eastward more than 250,000 'buffalo robes' from the southern herd. For miles along the Arkansas River the air reeked with rotting flesh. It was said that a man could jump from carcass to carcass for fifty miles without once touching the ground. Hides brought \$1.25 each on the average; tongues, 25 cents. From 1872 to 1874 it was estimated that more than three and



Buffalo skulls and bones on the plains. By the 'seventies it was said that a man could jump from carcass to carcass for fifty miles without once touching the ground



*The main object of the carnage which brought the buffalo almost to extinction was to obtain hides.
A buffalo yard at Dodge City, Kansas, in 1878*

a quarter million buffalo in the southern herd succumbed to whites alone. In a few short years the destruction was complete; the southern herd, save for a few wanderers and stragglers, had gone.

In the north the Red River and Saskatchewan Métis, the Hudson's Bay Company, and the many free traders on the plains pressed in upon the remaining bison. Blackfeet, Cree, Sioux and Assiniboiné Indians augmented the pressure. The last buffalo range contracted rapidly to comprise the region between the Platte River and the Great Slave Lake and from far west of the Red River to the Rocky Mountains, the bulk of the animals being concentrated in the southerly half of the area. This northern herd, estimated by known authorities to have numbered, in 1870, about five and a half million animals, was doomed. On the Canadian side persistent hunting for meat and robes drove the buffalo into an ever-diminishing range. Below the Canadian border the same process that eventually brought the southern

herd to extinction was applied with redoubled intensity. The Northern Pacific Railway assisted. In eighteen months, 'Buffalo Bill' (W. F. Cody), under contract to supply meat to the construction camps, killed by his own finger 4280 buffalo. By 1880, Montana, Colorado, Wyoming, western Dakota and the southern portion of the North-West Territories of Canada west of Manitoba held the last considerable buffalo, and more than 5000 white hunters and skinners were at work. Soon the Blackfeet, Crees and Assiniboines were starving; the Sioux had become desperate and disgruntled wanderers in a land but recently repleted with Nature's opulence. The last Métis hunt set out from the Red River in 1880, and the Canadian Pacific Railway reached the plains to find only bleaching bones. In 1883 a herd estimated at 75,000 animals crossed the Yellowstone River headed northward, bound for the Canadian plains, but less than 5000 lived to reach the line. The same year a remnant of something like 1000 worn and

harried animals lingered near the Black Hills of Dakota, where Sitting Bull and his Sioux braves suddenly turned up and, throwing themselves upon the bewildered beasts, spared not a single hoof. Finally, three gaunt bulls were killed on the Canadian plains in July 1888, in the valley of the Red Deer River east of the Edmonton-Calgary trail.

Naught but time-worn paths and whitening bones remained to tell the tale. The outstanding slaughter of all time had been achieved, and, save for some reputed wanderers in the forests of the north, a few

in captivity, a score or so of stragglers on the arid plains of Texas where Cabeza had first seen them, perhaps an odd dozen or two in Colorado, Wyoming, and isolated corners of Montana, the buffalo were no more.

But there remained a ray of hope. A deeply seated regard for a creature so inseparable from the freedom and fascination of the West, an unwillingness to see the extirpation of a beast so perfectly proportioned to the part it played, peered through the gloom of waste. Sentiment strove to perpetuate an all-but-vanished species. Sioux, Pawnees, Blackfeet, most of the nomads of the plains, keenly realized the bitter loss. But the Crees of the Canadian West claimed that the herds had vanished toward the south, and, propping bleaching skulls upright, facing northward, daubed with the magic of vermilion and accompanied by presents in propitiation, they cried to the Great Master of Life to send the *musketayo mustoosh* back to the lonely trails.

More practical methods stirred the few. The year 1873 evoked, from points a thousand miles apart, a miraculous combination of chance circumstances. Walking Coyote, a young Pend d'Oreille Indian, had struck out from the Flathead Reservation in western Montana to hunt near the Sweet Grass Hills on the Canadian border; and 'Charlie' Alloway, a future private banker of Winnipeg, and James McKay, a member of the first legislature of Manitoba, had joined a hunting brigade from Red River under the veteran plainsman Pierre Lavallée bound for the Battle River country, two hundred miles north of the Sweet Grass. Walking Coyote had returned with ample pemmican (prepared meat) and four buffalo calves—two bulls and two heifers. Alloway had brought back three tawny youngsters—two bulls and one heifer and, the following spring, down toward the Sweet Grass, had procured two more. The seed of continuity had been planted. The pedestrian Coyote



By courtesy of Lieut.-Col. George C. Morris

Sitting Bull, Chief of the Sioux Indians, and 'Buffalo Bill' (Colonel W. F. Cody), two famous buffalo-killers of the 'seventies

The rescue of the buffalo from total extinction had begun to have effect by the beginning of this century and in 1925 the buffalo's future was reasonably secure. Rounding up buffalo at Wainwright, Alberta



Dept. of the Interior, Canada

Week by week young stock were collected in corrals to await transport



Dept. of the Interior, Canada

The animals were taken in barges by river to Wood Buffalo Park in the Great Slave Lake country



had committed his find to the care of the priests at the St Ignatius Mission, near the Flathead Reserve, and, by 1884, a little group of thirteen healthy animals had resulted. Alloway's animals, kept on the tree-girt prairie at Deer Lodge, McKay's place a few miles west of Winnipeg, had increased to a like number five years earlier and, McKay having died, the Deer Lodge herd had been sold to Colonel Sam Bedson of Stony Mountain, Manitoba, for \$1000, Donald A. Smith, the future Baron Strathcona, financing the deal. In far-away Montana, Michel Pablo, a Mexican half-breed rancher, and his partner Charles Allard purchased ten of the St Ignatius animals and turned them out upon the Flathead range.

Upon Bedson and Pablo and some fugitive animals in the country of Cabeza now rested the future of the wild bison of America. Under watchful care the little Stony Mountain herd thrived and increased on the lush prairie north-west of Winnipeg; and Pablo's herd, roaming free and practically uncontrolled among the Montana foothills, showed a wholesome addition. In due course Donald A. Smith received twenty-seven of the Bedson animals in return for his outlay, and 'Buffalo' Jones of Garden City, Kansas, who already had fifty-seven animals, old and young, which had been captured under his supervision by expert cowboys in the uninhabited Texas 'Panhandle', purchased the Bedson balance—seventy head of full-blooded bulls, cows and calves. On reaching Kansas City, thirteen of the more unmanageable of these broke away, ran wild through the streets, caused consternation, and finally sought refuge from shunting engines and excited crowds in the Missouri River brushlands, where all were recaptured.

At this time Pablo and Allard had thirty-five animals, and being shrewd in the ways of the cattlemen, they purchased all the Jones' buffalo, now in Texas, entailing an almost incredible accomplish-

ment in their delivery across a rough and mountainous country. The largest herd of privately owned buffalo on the continent had resulted. Aside from the so-called 'wood buffalo' inhabiting the Great Slave Lake country of the north, whose numbers were unknown, it was stated by those best able to make an estimate that the total of all unfenced buffalo in the whole of North America amounted to eighty-five.

Allard died in 1896 and his share was disposed of to collectors, zoological exhibits and parks, while for ten years Pablo's portion roamed the range. Donald Smith subsequently presented five of his buffalo, for park purposes, to the city of Winnipeg, where some of their descendants still exist; fifteen went to the national park at Banff (Alberta) as a gift to the Canadian Government; and seven were retained for several years on his own estate at Silver Heights, near the old McKay farm, and were finally added, with their progeny, to those at Banff.

In one locality at least—that of the Flathead uplands in northern Montana—the bison was on the high-road to recovery. A few small fenced herds and single animals existed here and there. In 1901 the United States Government owned about twenty-five animals that wandered in and out of the wilder recesses of the Yellowstone National Park in the state of Wyoming. But what of the future? Was the erstwhile monarch of the plains to become nothing more than a caged or parked exhibit? No man could reasonably say. Ernest Thompson Seton, the noted naturalist, made the sad commentary that 'as a wild animal' the buffalo was gone.

But the trend of destiny persisted. Officials at Washington decided that the Flathead Indian Reservation should be opened for settlement. It had been an admirable grazing ground accessible to Pablo's needs; but a climax had suddenly faced the wily Mexican, and it was obvious that the time had come to sell. If

'... the finest ruminant that ever trod the earth ...'





Dept. of the Interior, Canada
Buffalo in Wainwright National Park, where since 1907 they have lived and bred in natural conditions



National Parks of Canada

So rapidly has the buffalo increased in the last thirty years that at Wainwright periodical round-ups and the killing of 2000 head annually has become necessary for the preservation of the herd



Royal Canadian Air Force

Buffalo filing up a hillside in Wood Buffalo Park

the Government must open the range, Pablo figured that someone must have his shaggy herd—now of unknown number. Washington declined to buy, and, seizing the opportunity in 1907, the Canadian Government, at the urgent appeal of the Prime Minister, Sir Wilfrid Laurier, negotiated for the entire Flat-head herd at approximately \$245 per head, delivered at Edmonton on the North Saskatchewan.

Pablo's buffalo were as wild as their ancestors. With the most experienced cowboys of the West, the pick of Montana horses and never-failing energy and patience, the round-up was inaugurated. At intervals through a period of five years trains rolled northward with their strange freight. In the first year two shipments reached Elk Island Park, thirty miles east of Edmonton, while a carefully chosen enclosure—the Buffalo National Park at Wainwright—a hundred miles farther to the east, was being prepared. Eventually, as successive shipments were made, 716 Pablo buffalo reached their destination, 631 going to the new enclosure of nearly 200 square miles, to which were added the Banff herd, now numbering 87, and 30 purchased from the Conrads, pioneer ranchers and traders of Kalispell, Montana. By 1924 Elk Island Park and the larger Buffalo National Park were over-taxed, and the killing of more than 1800 animals became necessary, the meat, skins, heads and other products being disposed of to the best advantage. Many a prime roast, 'of all Varietys the most agreeable', has since graced the dinner tables of the Canadian people.

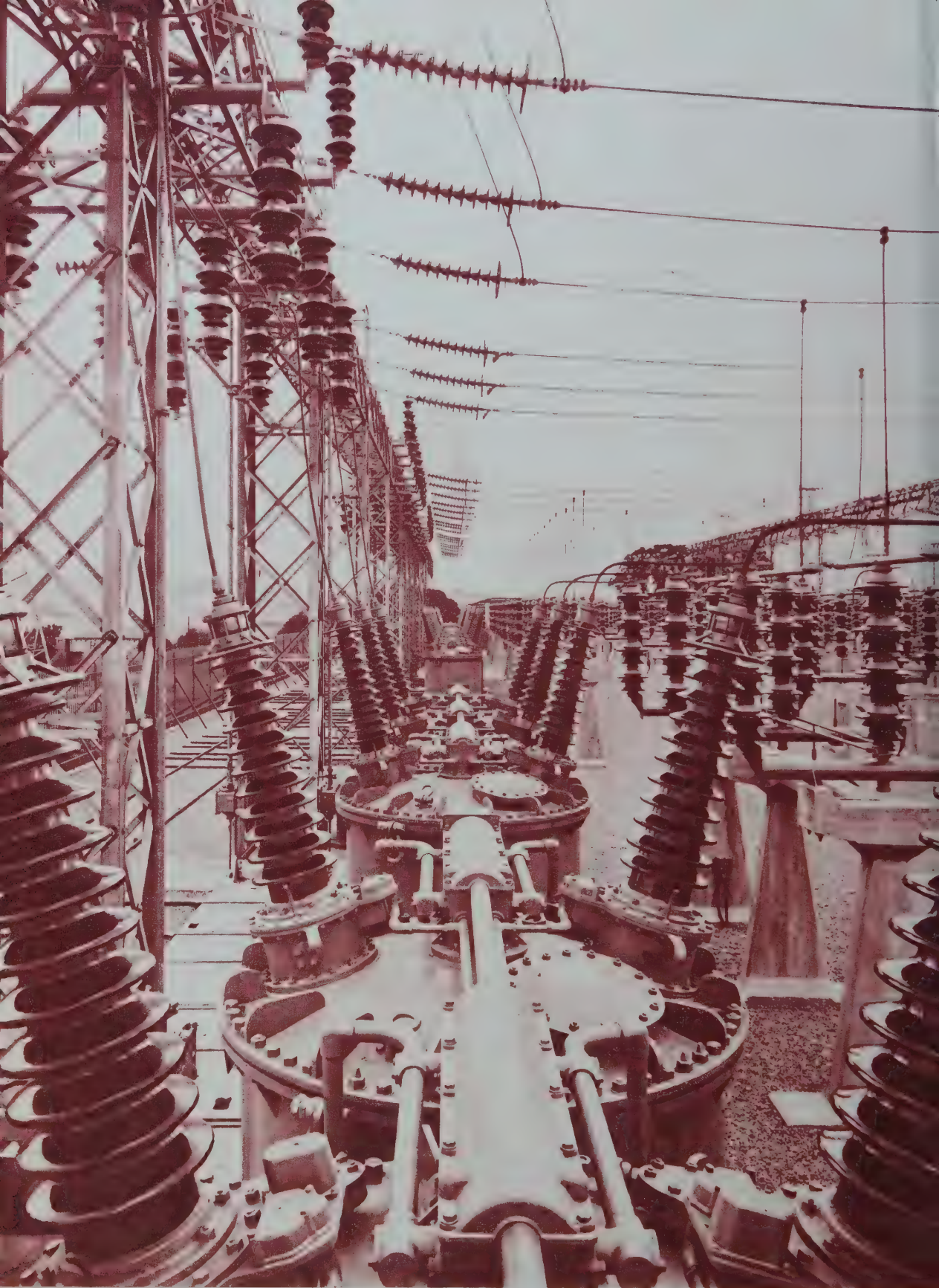
The following year shipments of surplus

animals again set in—once more toward the north. By rail to northern Alberta and by barges down the Clearwater, Athabaska and Slave Rivers, an immense undertaking was put in motion. In five years, 6673 buffalo had been sent to join their relatives in the Slave Lake country where Franklin had found them, there to roam, free and unfettered, in a wilderness tract of some 17,000 square miles admirably suited to their wants. Under the watchful eyes of experienced park wardens and the Royal Canadian Mounted Police the American bison was safe.

In spite of the unavoidable killing of approximately 2000 surplus animals annually at Wainwright, all of which are turned to good account, Canada maintains some 5000 bison in the Buffalo National Park, 2000 in Elk Island Park—irresistible magnets to the tourist and sight-seeing public—and is the proud possessor of the great wild herd in the Wood Buffalo Reserve of the north, estimated at nearly 9000 rugged denizens of forest and plain combined—in all more than 15,000 buffalo under promise of enormous increase. In the United States, the Yellowstone Park herd, of uncertain future, has increased to approximately 1000 animals.

The wild bison of America has been clutched from a threatened extinction to live and multiply and replenish the waste places. True to the Cree faith in the Master of Life, the *musketayo mustoosh* has returned to its northern pastures; and, in the words of one of her most far-sighted first ministers, Canada has decreed that 'in so far as it is within the power of man, the buffalo shall not perish from the earth'.





Power—Circuit-breakers at the Northfleet Transforming Station

By courtesy of the Central Electricity Board



Stewart Bale

Mass—The *Queen Mary's* anchor-chains



Alfred G. Buckham

Solitude





Complexity—The framework of the *Hindenburg*

Central Press Photos



Humphrey Spender

Simplicity—Grain silos at the Empire Mills, Victoria Docks



Peasant Life in Hunza

by E. O. LORIMER

Those who read Mrs Lorimer's article in the July number of The Geographical Magazine will know where Hunza lies, how difficult it is of access and how it is governed. They will also be aware of the unusual opportunities that Mrs Lorimer enjoyed for entering intimately into the life of the Hunzukuts—opportunities of which, as the following article shows, she was unusually well qualified to take advantage

By far the greater bulk of the area marked as 'Hunza' on our maps is a wilderness of inviolate snow-clad peaks and of untrodden glaciers. In such regions, where giant mountains jostle each other for standing room, human habitation is possible only on the occasional oases that cling steeply and precariously to the mountainsides at heights varying from 7000 to 9000 feet above sea-level, and 300 to 1000 feet above the river-bed, whose banks of crumbly earthen cliffs are as inhospitable as a railway cutting. The winter is bleak and harsh, the irrigation channels are silent, for all the land is ice-bound, and the sole supply of water comes from the covered-in drinking-tanks or the open-air reservoirs on which the crust of ice is often one to two feet thick and has to be daily re-broken. Day after day the mountainsides are swathed in snow-depositing cloud and the sky is as dismal as England's in November. Snow lies rarely, and not for long, at the habitable levels, and a more cheerless landscape could hardly be conceived—not a blade of grass, not an evergreen is to be seen, nothing but a waste of bare earth and rock and stones and the skeletons of gaunt trees, amidst which the little stone-and-mud fortress-like houses are scarcely to be distinguished except by a thin wreath of wood smoke rising at meal times from the centre of their flat roofs. Fuel is scarce and a fire for mere heating an impossible luxury; but the houses are cunningly contrived to conserve heat and exclude draughts. No hall-door opens directly to the hostile air. The entrance is at right angles through one of the byres, and the warmth of the stalled beasts contributes to

the human warmth within. On the central hearth the wood ashes are never quite extinct and the roomy sleeping-benches, one for men and one for women, are screened at head and foot by thick partition walls, on the inside of which hospitable cupboards accommodate the household goods. The smoke-hole provides the only light or air; but warmth in winter is more essential than over-ventilation. Except to draw water or take the beasts to drink, no one willingly stirs abroad during the 'Great Cold'.

Time, however, does not hang heavy on the people's hands. The women pluck and spin the wool, stitch homespun cloaks, embroider their merry little caps, pound the apricot kernels that yield oil for the stone lamp, while the men spin the goat's





All photographs by E. O. Lorimer

Among the snow-clad peaks of the Karakoram the Hunza people eke out a precarious existence by cultivating the occasional oases that cling to the mountainsides

hair, weave many kinds of baskets, repair their wooden hoes, their ploughs, or loom-frames, and fashion a zither or a flute. Minds are no less profitably exercised than fingers, for while the family sits 'by the lamp' all sorts of tales are told, and in this homely school the children learn the legends of their mountain peaks, the history of their forefathers, the elements of religion, courtesy and economics, their customary laws and all the lore of field and pasture, handicraft and thrift.

The winter is happily short, and when the first tinkle of running water indicates

that the evil spell is broken, people thankfully pour out into the pure fresh air that is their normal element and with good heart take up the unending struggle to wrest bread from an unresponsive earth. The soil of such cultivated patches as Hunza boasts would not tempt the pampered agriculturist of Europe. It consists solely of more or less finely pounded and powdered mountainside, thick blent with stone and rock and boulder, and liable in many place to be overwhelmed by a mud flood that strews gigantic rocks high-piled, obliterating for centuries to come the

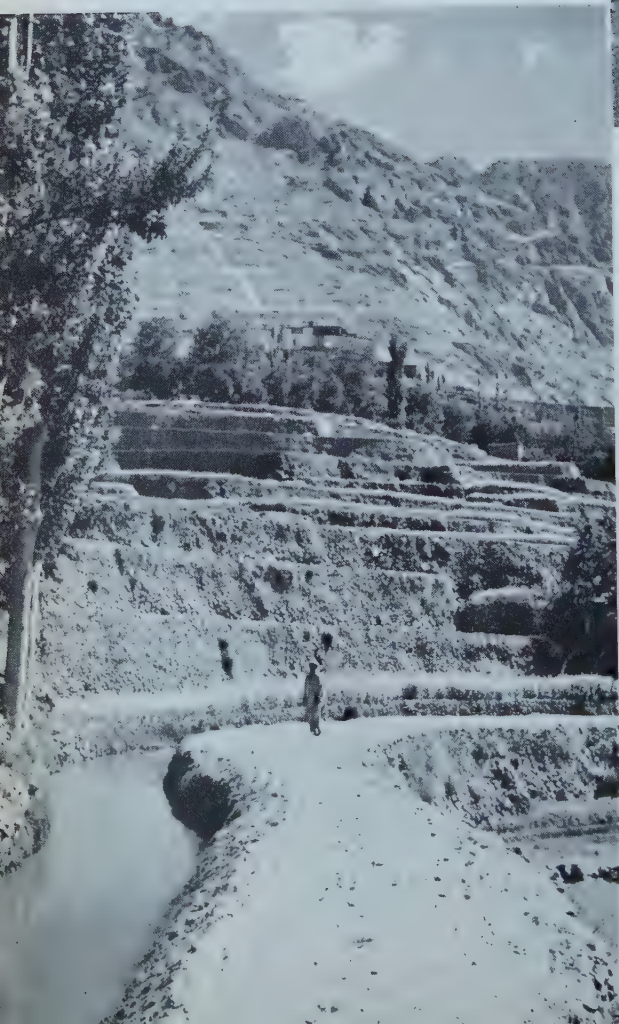


The byres and outhouses built around and above the central core of the Hunza house ensure a warm, draught-proof living room. The entrance here is through the lower door



In summer the Hunzukuts live and work in an upper room on the roof, airy and light. The mistress of the house is rolling a flap of bread on the lid of her kneading-trough

Fields in winter lying ready for the spring sowing. The scarcity of water and the steep slope of the ground render it necessary to level and revet the fields. The revetting walls (of loose unmortared stones) may be as high as fifteen or twenty feet



The ingenuity and engineering skill of the Hunzuts is spectacularly displayed in the irrigation channels which bring water down from the high gorges to the thirsty fields. This, the Dala, which is the largest channel in Hunza, was excavated three generations ago with wooden shovels and pickaxes of ibex horn

hard-won fields. The river far below is at all times useless for irrigation, whether in winter its niggardly streams trickle between the stony beaches of its bed, or its full flood roars savagely in summer, swollen by melting snow and glacier. All water for cultivation must be trapped high up in the side gorges and carried for miles across ravines, round spurs and cliffs, to reach the thirsty fields. One of the main channels—12 miles long—that supplies Baltit, the capital, was constructed three generations ago with picks of ibex horn and wooden shovels. The Hunzukuts of today, though now armed with a few rude iron tools, has lost none of his hereditary skill. It is impossible to rate too highly the engineering instinct and perseverance with which these water channels are devised, galleried and carried out. Not ingenuity and toil alone go to their making; each takes and has taken its toll of human life.

Among the wonders of Hunza a first

place must be given to the revetting walls, built of unmortared, often of water-worn, stones, that hold up the levelled fields, rarely larger than a tennis-court, often as narrow as a bagatelle table. Five hundred feet of mountainside may be faced with these giant steps of stairs, accommodating themselves in graceful curves to the contour of the land—and never a stone of all those myriads is out of place.

The crying need of this raw soil is manure, and ever more manure, but the number of beasts that can be fed is strictly limited. A few of the mountain slopes, too steep or stony to terrace, are flooded when water can be spared and yield a crop of scanty grass amid the rocks; a few fields can be given to lucerne, which in favourable places gives three crops, but such fodder is inadequate. All through the winter the main cattle food is the autumn harvest of dry leaves. When summer comes the half-starved flocks are taken up



A 'bridge' over the Dala. The Hunza people never drink spirits, or such gap-bridges might be dangerous!

to such patches of pasture on the higher mountains as are left by the retreating snows, but on the sun-baked precipitous heights these pasture pockets are all too few. The plough-oxen, kids and lambs and a few milch cows that remain below are fed on the new spring foliage of every 'donkey tree' (as they call their willows and poplars which are grown for timber and withies). Boys, girls and men swarm up the trees and fling down every tuft of foliage that can be safely spared. When they can climb no higher, because the slight poplar trunk sways beneath their weight, they still reach up with an ingeniously sharpened horseshoe lashed to a long pole and fetch down the twigs above. Thoughtlessly one day I lamented the sight of a lovely row of poplars thus despoiled. With delightful outspokenness the peasant at my side turned on me: "What, Mother, would you have us starve our beasts for the look of a poplar tree! The leaves will come again next spring: there is no cure for a dead sheep."

The average number of animals that one homestead can by all these devices hope to feed is not more than twenty all told; oxen, cows, sheep and goats. Every ounce of manure is hoarded like a miser's gold. The herdsmen carry down baskets of it on their back, one, two and three days' journey home from the mountain pastures. We met one day a youngster breathlessly driving back a cow that had strayed from his care. "I've got her," he said, "and see, I've lost nothing!" wherewith he proudly displayed some cow-dung garnered in the skirt of his homespun cloak.

This venomous adversity is not without its compensations. Never was there a countryside so clean and tidy as Hunza. Rich as the Burushaski language is, it has no word for 'litter lout'. Every twig and leaf is swept up as it falls, for fire or fodder, every nutshell carried home to boil the pot; and when at the approach of winter the close-grazed grass can grow no more,



A climber, seeking fodder for his hungry beasts, hacks the topmost branches off a poplar tree with a sharpened horseshoe lashed to a pole



Clearing apricot trees of branches suspected of harbouring insect pests

every inch of the countryside is swept again and yet again, for weeks, by small children with their besoms of thorn, to gather the splinters of half-frozen grass that still remain and harvest the sheep and goat pellets. These basketfuls of *sho* are spread as bedding in the byres and ultimately find their way as dressing to the fields.

Except for the Great North Road from Kashmir to Kashgar that passes through Hunza—a bridle track of six feet wide—there are no roads. On the mountain-sides you can follow such goat tracks as you dare. Round the cultivation you can walk horizontally with caution beside the irrigation channels. There is access from level to level by stony tracks of two feet wide, like the beds of little mountain torrents. From one field to the next you can climb by a flight of projecting stones left in the revetting wall. Any day you may see a young mother with a basket of potatoes or sand-silt lashed on her back and a two-year-old mounted on top, his hands firmly clasped over her forehead, stepping up the face of a twelve-foot wall as unconcernedly as we should walk unladen up a carpeted stair.

Even in the glorious amphitheatre of storeyed cultivation that surrounds Baltit, whose fields have been ploughed, manured and watered in the sweat of man's brow for over 600 years, the peasants' toil wrings from the reluctant earth only a beggarly tenfold return; newer lands yield only seven. For all his diligence the Hunza peasant lives always on the borderline of under-nourishment. Despite the most rigorous rationing, 'Starvation Spring-time' finds most families already out of flour and even out of potatoes. Young greens, turnip tops, even the weeds among the springing crops, stitchwort, campion and dandelion leaves, supplemented by what remain of last year's dried apricots, may be the sole diet for weeks. The moment the spring barley is ripe it is joyfully snatched from the ground and hurried to the mill, while millets of various kinds

take its place in the hard-worked fields. A month and six weeks later come the winter and spring wheats, more highly prized than barley, and their place is taken by the sweet and bitter buckwheats. The Hunza peasant is intelligent and enterprising in rotating crops and experimenting with various types of grain, valuing above all those that ripen early and permit the secondary crops. He has taken kindly to potatoes as a major crop and to tomatoes in his vegetable plot. He grafts his apricots and mulberries with skill. The womenfolk bring no less ingenuity to bear on their pulses, their gourds, melons, marrows, savoury herbs and cucumbers as well as on their cooking. They make a bewildering variety of breads, from the wheaten pancake of festive occasions, the pastry tart and the princely cake with yeast and butter and a flavouring of kernels and walnuts, to the serviceable buckwheat scones of leaner days.

By our standards their foods are tasteless, though as a staple their wheaten *chupatti* is far more palatable than the 'English white bread' of the Indian cook. Apart from down-country imports, the luxury of the few, their only sugar is in their fruit and they have little or no salt. Women and boys scour the mountainside, tasting as they go, to find a promising patch of mineral-laden soil. This earth is then slung in a basket between poles and water is poured through. The resulting liquid, muddy and unappetising enough, and containing doubtless many other things than sodium chloride, is then stirred into their soup or stew. Summer brings good cheer with a plentiful supply of apricots, peaches, apples, pears, walnuts and grapes, but fat is sorely lacking. Only on feast days and festivals can meat be tasted, and even then the beasts have little fat to offer. A man's wealth consists in the number of birch-bark parcels of butter (weighing about 2 lb.) that he has stored in a damp little chamber excavated below the nearest watercourse. One who can

A lane in Hunza, half irrigation channel and half foot track, descending by drops of three or four feet from one level to another and flanked by the stone walls of the fields



Access from field to field is provided by a rough stile of stones which project from the revetting wall and lead to the next level



Oxen are used in the fields for ploughing. The plough, formerly all of wood, is now usually shod with an iron tip



Manure is precious and is carefully hoarded until, in due time, it is dumped on the fields in basket-loads



Aliko (his white beard dyed orange with henna) is past heavy work, but his skill in sowing is still valued. The small boy has been interrupted in a game of foot-polo and is still carrying his stick



(Above) Fields ripening for harvest around a cluster of peasant houses. The principal Hunza crops are barley, wheat, millet and sweet and bitter buckwheat

(Below) A father teaches his daughters to reap and to lay out the barley; 'reaping' usually consists of pulling the crop up by the roots





Threshing the barley with a team of five oxes. The pit in front is used to hold the grain until it is carried to the store



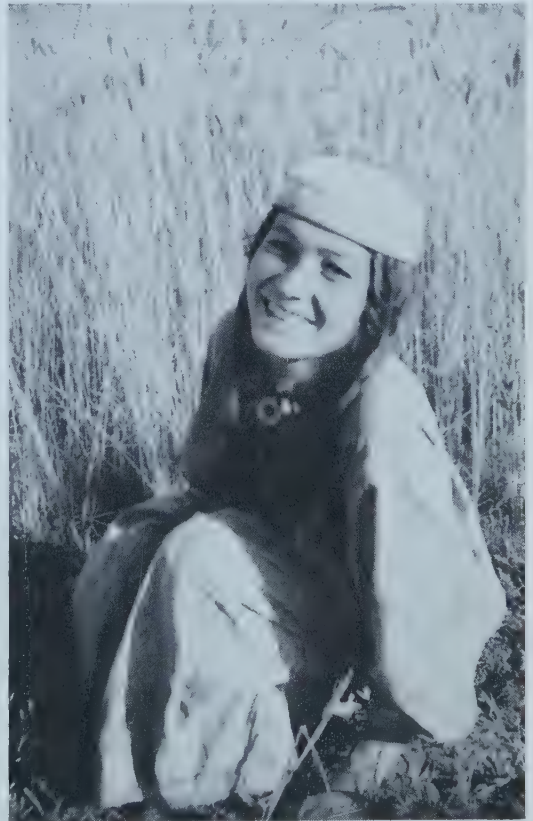
Winnowing—in the evening when there is a gentle breeze to blow the chaff aside

go himself to the summer pastures will bring home two such parcels from each milch goat (ewes' milk is of little value but supplies dried curds); but if the beasts have to be entrusted to another, the herdsman is only expected to bring back one—the balance being his fee. To a European palate this butter is unspeakably horrible, but the 'higher' it gets the more the Hunzuts enjoy it, and after eight years' storage it is treasured like a vintage port. It is never plentiful enough to be an article of daily fare, but for a wedding or a birth, or the visit of an honoured guest, a parcel will ceremoniously be broached and blended in soup and bread and porridges of many kinds. No doubt the lack of flavour in their normal food accounts for their love of rancid butter, which no one could accuse of tastelessness: a touch of it lingers in mouth and memory for weeks.

In spite of hard work and Spartan fare—or may it be in part because of them?—no happier people exist than the Hunza peasants. They are blessed with a fine physique and a cheery temperament, a simple wit and humour, a priceless sense of fun and an infectious delight in sheer living. The first thing that strikes a stranger is the ready smile and the spontaneous greeting, the dignified bearing, the unfailing courtesy that meet him on every side. Men and women alike are busy about their work but never too busy to answer questions or turn aside to point the way. There is no bustle or time-keeping to fray the nerves, no noise at night to break the well-earned rest, no hurtling traffic to endanger life. There is work and to spare for all, but it is varied from season to season and from day to day; it demands skill and thought and care; it is obviously useful and imperative. "No work—no food," a busy group will shout laughingly to you, as you pass on a futile-seeming walk for exercise. And the work is never lonely. A party of men will set off together at dawn or midnight on a walk of many miles to guard and manipulate the

sluice that will release their needed water; a group of boys will lead their goats to browse on spiky thorn among the barren rocks; a cluster of women will gather near a sandpit to thrash with rods their new-washed wool; or neighbours of both sexes will foregather in orchard or garden when the day's work is done to exchange the news of the day while busy fingers work magic on wool, goat's hair or willow withies and someone tinkles a zither or tootles on a flute.

Full as the day might seem, there is always leisure for talk and jest and merriment. Several communal festivals punctuate the busy year, for which men and women dress up in their best, the bands



Numa pauses in her reaping to smile at the passer-by. Hunza women enjoy almost as much social freedom as Englishwomen

play, and the hard-fought polo or tent-pegging or mounted archery ends with a dance. The man makes himself gay with coloured shirt and homespun cloak brightened with touches of embroidery, the woman sports a bright new cap and tunic gay with colour though it be only cotton chintz, and flings a many-coloured scarf of silk or cotton round her head, but not to conceal the dark-brown plaits that frame her face nor to veil her dancing eyes. The interesting pagan rites that are preserved—though they have long lost their magical significance—at the midnight bonfire of the Winter Solstice, the Barley Seed Sowing of Spring, and the rejoicings of Harvest Home, offer opportunities for rejoicing and social intercourse. Apart from these communal festivals, there is the great Marriage Day just before winter sets in—when all the betrothed couples in Hunza get ‘spliced’ at once—and

the more intimate family feastings at birth and name-giving. Sheer play is a large factor in the daily life; youngsters play local variants of ‘tig’ and ‘blind man’s buff’ or ‘snowball’ each other with dried mud-pies; the girls play individual or team games of ball; the boys use a stubble field for tipcat and foot-polo or an open reservoir for swimming and diving or vary a romping bout of ‘horses’ (one set mounted on the other’s back charging each other to a fall) with more sedentary draughts where the ‘men’ are white and grey pebbles, and the board is a network of triangles scratched in dust or sand. At New Year, the Spring Equinox, every garden is alive with girls and women swinging, often to the peril of their limbs. The one extravagance the Hunzukuts allows himself is his horse, and polo to the heartening noise of drum and pipe and kettledrum is a feature of every festival.



Polo is one of the chief sports of all districts in the Gilgit Agency. An ‘international’ match is being played at Gilgit during the annual meeting of chiefs



The whole population turns out for the great festivals of New Year (Spring Equinox), Barley Sowing and Barley Harvest. The terraced walls and the trees form points of vantage for spectators of the polo matches and the dancing that follows





Sisters co-operate in plaiting a twelve-thread braid for the border of a cap for the eldest girl's trousseau. The girl on the left is stitching the braid on as it is plaited

Inter-village matches arouse the keenest interest of spectators as well as players, and precious though levelled land may be, no hamlet is without its walled-in strip of polo ground. The rules are not those of Ranelagh, being centuries older, but the sportsmanship is no less high than on the playing-fields of Eton.

Money, when there is a spare son to earn some in distant service, is used to buy salt, sugar and cotton cloth from passing Central Asian caravans, or from the Gilgit bazaar, but internally it is scarcely current. Services of every sort are repaid by service or in kind, and goods are exchanged by simple barter.

If the treatment of women is the criterion of a civilization, Hunza deserves a place in the first rank. Three centuries of Islam have not degraded the Hunzukuts into veiling or incarcerating their wives at the behest of the uxorious prophet. No

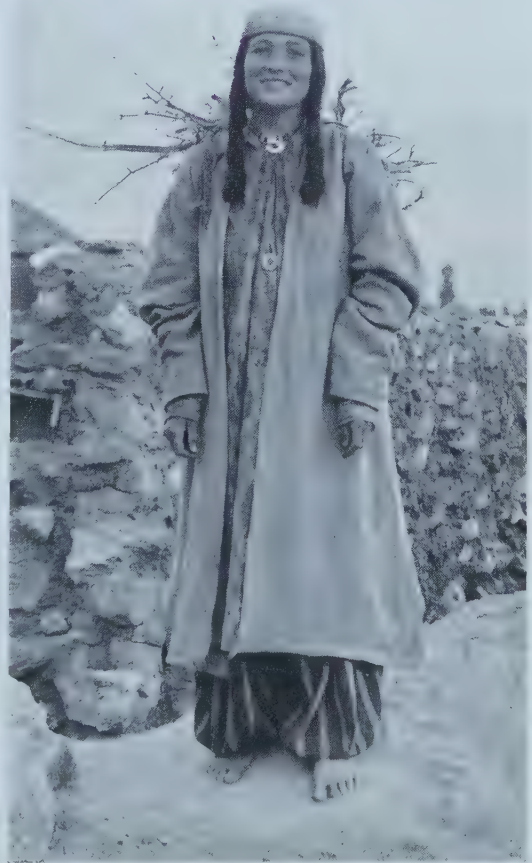
Englishwoman is freer of gait or speech or smile than the peasant girl of Hunza. No hard and fast line divides man's from woman's work; no service for his children that he is able to render is below the man's dignity, and he carries his young ones in his arms or astride his shoulders with skill as well as pride; no task for which she is physically strong enough is taboo for a woman. The ruling mistress of the house is the most important cog in Hunza economics, for the year's stores are in her care and it is she who regulates the rationing of every day, the issue of wool and the assignment of jobs to her daughters-in-law. A man rejoices in the good looks, health and spirits of his wife, but 'my good woman is a capable manager' is his proudest boast; and a fair ground for divorce is—most justly—a woman's extravagance, or merely over-optimism, about the family supplies.

In this bracing climate children do not mature over-early and premature marriage is unthought of, but no girl will normally pass fifteen or sixteen, no boy eighteen or nineteen, unwed. The betrothal of a young couple is in the parents' hands, but boys and girls who have romped together as children have no doubt considerable say in the matter, and no girl is forced into a distasteful marriage.

The Hunzukuts are divided into several tribes, and they preserve their old custom of marrying outside their tribe. To the peasant the Islamic marriage of first cousins savours of incest, though it is sometimes practised by the well-to-do. This sound avoidance of inbreeding probably helps to account for their high standard of physical fitness and intelligence. We saw no single case of goitre or cretinism in all our Hunza stay, whereas the prevalence of these in Nagir is most noticeable, even to the casual traveller.

On marriage a girl retains her identity; she has become a 'wife of the Diramiting' without ceasing to be a 'daughter of the Burong', and when she dies her own tribal brothers will attend her funeral along with her husband's kin. She remains in close touch with her parents and often spends a day or goes to stay at her old home, and exchange-gifts of fruit and vegetables pass between the houses. Children are not only desired but needed, and the mother's rôle is an honoured one. Without sentimental fuss she is well cared for, extra nourishing rations are assigned to her and the heavier tasks are by common consent taken off her hands. When her time has come an experienced woman comes to give her aid and her husband posts himself at the door, her brother at the smoke-hole, to guard her against harm. The birth of a boy is greeted with double rejoicing, not because a girl is under-valued, but because a boy will bring a woman's labour and grandchildren to the home, while a daughter will take hers elsewhere. That house is rich which has two or three

able-bodied sons at home and a couple of extra ones to go abroad awhile and earn. Except in the rarest cases, the adventurous Hunza boy who finds his way to Kashmir, or as far off as Bombay, remits home every anna he can spare, and after a few years returns with honour and some acquired skill to share the luxury he has created; the extra house or byre, the new orchard, the aluminium cooking-pot oddly rubbing shoulders with the stone *balosh*, or the iron



Carrying firewood in a basket. Hunza women wear cotton tunics, loose trousers caught in at the ankle and, in cold weather, homespun coats.

Married women have their hair in two plaits



above) *Basket-making. Willows are specially grown for the many different shapes used—to carry loads on the back, to be slung on poles, and for use in the home*
 below) *A primitive lathe worked by leg-power is used for turning wooden bowls—indispensable household utensils*





The spinning and weaving of goat's hair is a man's job. The ball of single-ply yarn is ingeniously flung at arm's length in circles so as to yield a twisted double-ply thread which forms the warp of goat's hair mats and sacks. The cloth is woven on a movable upright frame (below)





Reading and writing are rare accomplishments among the Hunza peasantry. This old peasant priest is handing on his knowledge to his little son

bucket incongruously going with the gourd for water. Children are carefully spaced with three or four years between, so that each has a full share of his mother's care and attention.

The visitor from civilization is immediately struck by the restfulness of the Hunza atmosphere. There are no nervous gestures, twitching faces, bitten finger-nails or haunted eyes, and no irritable words snap to and fro. From the moment of their birth Hunza children are in touch with the facts of life; birth, death and procreation are as familiar as irrigation, seed-sowing or the rotation of crops, and hold neither more nor less mystery than these.

The personal fastidiousness of the Hunzukuts is as remarkable as their fine moral code. Their semi-buried drinking tanks are roofed and approached down steep stone steps and are thus effectually guarded

against animals; washings are done in private within walls, and most adequately done: for never, sitting among the people in their fields or houses, or tight packed in a holiday crowd, does one shrink from physical contact or carry home unwelcome visitants in hair or clothes. The infants are kept sweet and clean, the children's heads are shaved, leaving only a thick, becoming fringe to show all round below the cap; every day, rugs and bedding are hung out in the sun and air; streams, courtyards and gardens are unpolluted. Each house has near it a picturesque circular stone structure, which before we guessed its use we nicknamed the 'open-air pulpit'. The lower chamber is closed by a slab of stone for facility of cleaning; the floor of the upper is well stocked with fresh clean sand. These pulpits may stand beside the public way, or close by the main entrance, but so scrupulously are they kept that never a whiff suggests their necessary purpose.

The Hunzukuts may tell his ancient tales of baneful spirits, ghosts and Evil Eye, but no superstition about these things enters his daily life, full filled with work and play and family affection. Unself-consciously he practises those virtues that we arrogantly call 'Christian', with no too vivid dread of Hell or thought of Heaven.

The British have brought to Hunza peace from raiding and from slave-trading and only so much supervision as excludes foreign intrigue or possible tyranny on the part of the patriarchal chief. Nowhere has our frontier policy been so successful, nowhere in our Indian Empire is the British officer still so honoured as a father and a friend. There seems a hope that the cruel poverty of their country and its inaccessibility may yet for a considerable time protect the Burusho of Hunza against the deadly gifts of 'civilization': its cinemas, gramophones and motor cars; its litigation, its dogmas and its morals. Long may Hunza remain a sanctuary for one of the finest human types that Nature has yet evolved.

The Evolution of Vienna. II.

by JOHN LEHMANN

Having traced, in a preceding article, the evolution of Vienna up to the Congress of 1814, Mr Lehmann describes its growth under the influence of 19th-century capitalism and, more recently, under the direction of Christian Socialist and Social Democratic governments. In the later stages of this growth—which are recorded as clearly as the rings of a tree—the city has proved no less important a focal point of European civilization than it did in earlier times

FOR more than thirty years after the Congress Vienna's appearance underwent very little alteration. Austria was exhausted by the Napoleonic wars, and the lack of money for the modernization of the city that became with every year more clearly necessary, together with the repression of thought and initiative under Metternich's system, prevented the continuance of the great building tradition of the previous hundred and fifty years. Typical of the desire to maintain things as they had been, the fear of the disintegrating force of any new ideas, the city walls remained untouched, though the near suburbs were pressing now right up to the *glacis* and the military value of such fortifications had already been proved out of date by the French wars. A few monuments in Empire style appear, the most imposing of which is the Burgtor by the Hofburg, and in the rare palaces of the period, such as the Palfy Palace in the Wallnerstrasse, there is some discreet Empire decoration. The public buildings are strictly practical, chiefly banks, schools, offices, and are dry and unimpressive in style. The only contributions of any real beauty which the Metternich period made to Vienna architecturally are the houses which the bourgeoisie, now gradually beginning to feel its strength, built in the outer districts such as Hietzing and Döbling, and occasionally in the town itself. They are often exquisite in style, quiet miniatures of the great Baroque palaces of the 18th century; in them the homely unambitious spirit of the age of 'Biedermeier' is well expressed.

The creative forces of society, however,

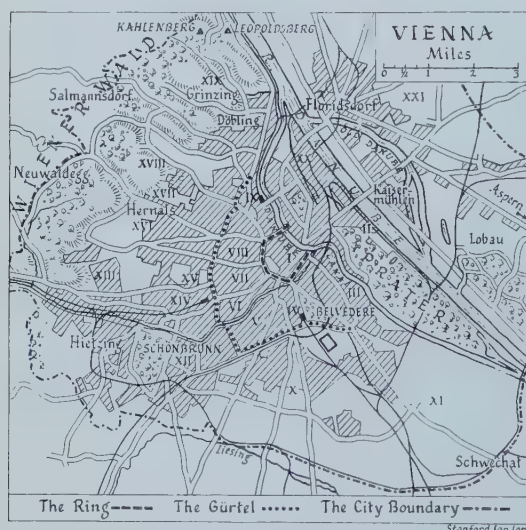
could not for ever be suppressed, nor the growing national consciousness of the various races under the Habsburg rule. The year 1848, sweeping over Europe like a tornado, brought violent disturbances to Vienna also. Revolution broke out, headed by liberal-minded students who to a large extent carried the masses with them, though it was not an essentially proletarian movement. At first the storm was stayed by the flight of Metternich, ironically enough to a democratic England that had long completed its bourgeois revolution, but in the course of the year the Court had to remove to Innsbruck, and the revolutionaries, provoked by the attempt to send troops against the Hungarians who had declared for national independence, after some savage shooting affrays seized control of the city. Though their reign was short enough, and the vengeance taken, when order had been restored by Prince Windischgrätz's loyal troops, ruthless, they had brought about not only the flight of Metternich but also the abdication of the Emperor Ferdinand in favour of the young Franz Josef, and the inauguration of an entirely new era.

The Habsburgs were saved, but the bourgeoisie and the subject nationalities of the Empire had nevertheless made a great stride forward historically. It is important to stress this, as Vienna's significance in Central Europe changed once more, and this change brought with it considerable corresponding developments in building and town-planning. Vienna broke from the cultural restraint of Metternich's days; it developed rapidly as an industrial and financial centre; through the Hungarian

achievement, which was crowned by the establishment of the Dual Monarchy in 1867 and the resulting expansion of Budapest, through the increased agitation of the subject Slav peoples, particularly the Czechs, for independence, it felt driven to assert itself palpably as the capital by swift modernization and lavish self-decoration. Moreover, after the defeat of Solferino in 1859 and the unsuccessful war with Prussia in the 'sixties, it became the centre of an Empire whose interests and power shifted more and more towards the east and south-east, while its connections with Germany and Italy lost much of the intimacy that had been characteristic of the preceding period. The Habsburgs were no longer the rulers of the German Empire; as the frontiers and national content of their Empire changed, owing to the new capitalist ascendancy, its nature changed also. It became a powerful modern state, industrialized and at the same time rich in raw materials, forming a very nearly self-sufficient economic unit. The industrial and financial expansion, that fêted its triumph and suffered its first terrible shock of crisis in the 'seventies at the time of the World Exhibition (for which the huge Rotunde exhibition-hall in the Prater was built), transformed Vienna's appearance

as radically as the victory of the Counter-Reformation and the defeat of the Turks at the end of the 17th century. At the same time the population increased enormously, partly owing to the actual extension of the city boundaries, partly to the stream of immigrants attracted from all the Habsburg lands by the prosperity boom. By 1880 there were 726,000 inhabitants, and by 1890 already 1,364,000, while the non-German element grew steadily.

The old city walls were at last pulled down, and between 1860 and 1880 the Ringstrasse, with its magnificent fourfold belt of trees and its gigantic new buildings, was created, while part of the former *glacis* was built over, part transformed into parks. Now at last the suburbs began to be incorporated, and the city boundaries receded to the Gürtel, while building was everywhere pushed forward with a haste and reckless eclecticism of style to which many beauties of old Vienna fell victim. The aesthetic achievement of this outburst—though a distinct grandeur, a massive self-confidence, give it unity—cannot be compared with that of the Baroque era. The character of the buildings is also significant: neither churches nor palaces are dominant, and even the extension of the Hofburg as originally planned remained incomplete. Instead, the Ring offers a pretty panorama of the ideals of the 19th-century liberal bourgeoisie, with its new University, State Opera House, Burgtheater, Rathaus, Stock Exchange, Parliament, Palace of Justice and museums. Many architects took part in this work, and in an age without a style their numbers only made the aesthetic confusion worse. Siccardsburg and Van der Nüll's vast Opera House, with its Italian Renaissance motifs, stands at the traffic centre of the new Vienna, at the crossing of the Kärntnerstrasse and the Ring, where it can impose itself without rivals. But a little further along, by the Burgtor, style begins to jostle style roughly and startlingly, Theophil von Hansen's



In the general impoverishment which followed the Napoleonic wars, little was added to Vienna of architectural significance; a few small but exquisite houses for the rising bourgeoisie stand out



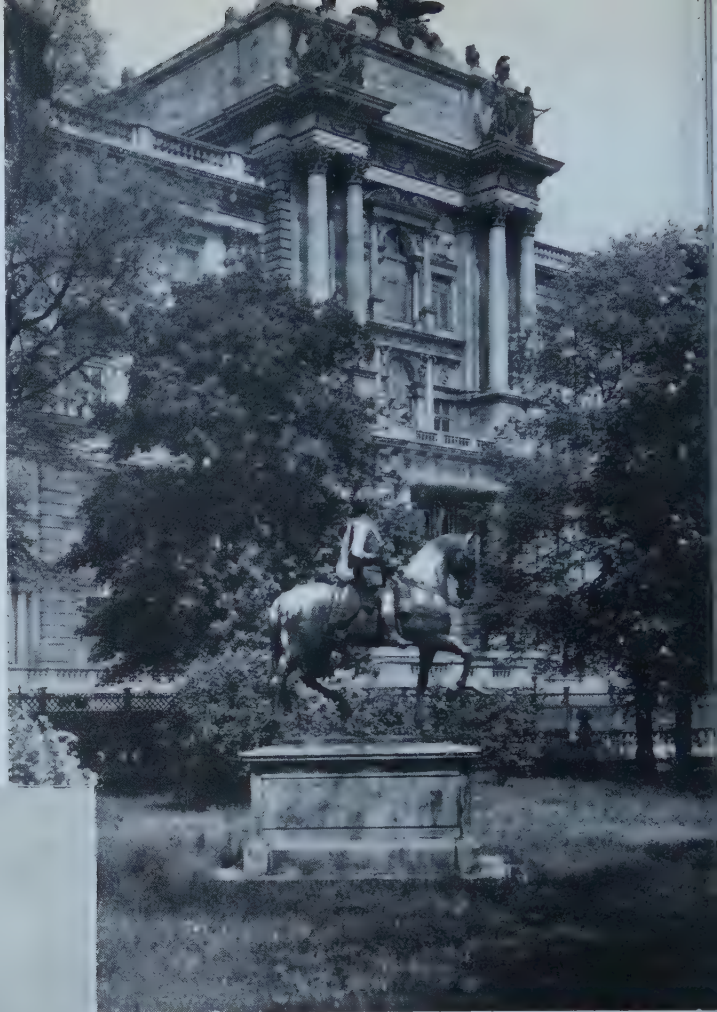
John Lenmann

It was only after the 1848 revolution, and the demolition of the ancient fortifications, that large-scale building began again. The huge Opera House was completed in the 'sixties



Österreichische Verkehrswerbung

Among the schemes which were undertaken in the 'sixties was the enlargement of the Imperial Hofburg. The new wing has the massive, exuberant grandeur typical of the period



Österreichische Verkehrswerbung



Österreichische Verkehrswerbung

The contrast of styles employed by the architects of the new Ringstrasse surrounding the Old Town is most striking where the spire of the Rathaus, reminiscent of Belgium's late Gothic cloth-halls, rises behind the Hellenic parliament building

Hellenic Parliament House next to Ferstel's vaguely Renaissance Burgtheater, and towering above both of them Schmidt's Gothic Rathaus, reminiscent of the cloth-halls of Belgium. At the same time, in between these giants, rows of new dwelling-houses and shops were erected that seem characterless enough and are yet, taken together, characteristic of their age, as the occasional introduction of a later building shows. In all the new districts of the city, the former suburbs, new blocks of houses and offices sprang up, and beyond the Gürtel, which before the end of the century was also to be abandoned as a boundary as Vienna shot outwards, increasing numbers of factories made their appearance and a huge industrial proletariat, composed partly of former Viennese and peasants of the suburbs, partly of the new elements that were pouring into the city, rapidly developed.

Liberal capitalism thus radically changed Vienna in form and content within a few decades; at the same time, as the first major capitalist crisis of the 'seventies was to prove only too crudely, it was incapable of coping with its own creation. The result of the increase of the proletariat, of its destitution and sufferings in the aftermath of the crisis, was the emergence of socialistic workers' parties as a powerful political factor. The simultaneous ruin of large sections of the petty bourgeoisie, and the fact that the native Viennese felt themselves being overwhelmed by the immigrants, a large proportion of whom were Jews from the eastern provinces, brought the anti-Liberal, anti-Semitic Christian Socialist party, with its hostility to high finance and capital, the rapid support of the 'small man' and Catholic sections of the proletariat as yet untouched by the rival international Socialism of the Social



Österreichische Lichtbildstelle

The next great wave of building arrived after the Great War, when the Government of Vienna, now Socialist, began to erect its giant tenement houses in the outer, working-class districts. Among them is the Goethe Hof, opening on to pleasant meadows by the quiet waters of the Old Danube



John Lehmann

The largest of the tenement houses, such as the Karl Marx Hof (now known as the Heiligenstädterhof), are like small towns complete with communal baths, laundry, kindergarten and lecture-halls. The unornamented surfaces are cleverly broken by balconies, where each flat catches some of the day's sun

österreichische Lichtbildstelle





John Lehmann

Socialist tenement buildings, Am Fuchsenfeld. The splendid effect these blocks make is partly achieved by their continual and bold variety, and the high proportion of open space to building on each site. Many of the best European architects were employed on this work

John Lehmann





John Lehmann

John Lehmann

The provision of new flats at low rents for the workers was not the only object of the Socialists; they wished to complete this with modern social services of every sort, some in the tenements, some, such as the Infants' Homes, in separate, specialized buildings





John Lehmann

John Lehmann



*The care of the young was in the forefront of their programme. There is no more delightful kindergarten in Central Europe than Sand-
leiten, with its sunny play-
grounds and swimming pools.
The wide courtyards of the
houses are designed for the
enjoyment of healthy children*



John Lehmann

The George Washington Hof, on the hills that rise before the southern boundaries of Vienna, is built as a garden city with curving avenues and little parks filled with flowering shrubs

Democratic Party. A few years after its birth in the 'nineties it was in control of the municipal government, and carried on the development of Vienna in harmony with its political ideas. It succeeded in municipalizing gas, light and transport, but in its battle against private capital did not, and would not, go much further. Its contribution to modern Vienna's appearance and life is clearest in the regulation of the Danube, which put an end to the danger of severe floods and made it possible for Floridsdorf and the other suburbs on the left bank to develop industrially, and finally be incorporated into the city in 1904-5. The Metropolitan Railway (Stadtbahn) was also built during the Christian Socialist period, and the belt of wood and meadow round the city planned.

By 1914 the challenge of Social Demo-

cracy had become more insistent, its influence on the new proletariat that was crowded in a wide ring of slums and semi-slums round the Inner Town and the older suburbs, steadily advancing. The ancient Habsburg power was weakening, and few intelligent observers believed that it could survive for long without far-reaching concessions to the masses and the clamorous subject nationalities. At the same time it had been extending its territories in the Balkans by the annexation (in 1908) of Bosnia-Herzegovina, which it had occupied thirty years before. The concessions, however, were not forthcoming: the one Habsburg who might have granted them, the Archduke Franz Ferdinand, was murdered in Serajevo. The World War, which immediately followed, was bound to be fatal to the rickety Empire, and at its close in 1919 the non-German peoples (trailing

with them many German-speaking groups) broke away to coalesce with the already existing countries to which they felt they belonged by blood, or to form their own independent states. The furnace-heat of the times brought the long-expected revolution to Vienna as well; for a time it was uncertain whether Austria would complete the chain of Soviet states, attempts to create which were being made in Bavaria and Hungary; but the Social Democratic Party prevailed as it had in Germany, and Austria proclaimed itself a democratic Republic. The Habsburgs departed: it would be unwise to say never to return.

Vienna now found itself the impoverished capital of a small country chiefly consisting of mountains, with a population about one-tenth of the former Empire's population. Its own population, over two million in 1910, was reduced by the War, and was still

further to be reduced by the emigration of Czechs and others whose capital it had been in the old days, but it had nevertheless not fallen below 1,800,000: a mass of humanity for whose economic support the new Austria was totally inadequate. The dislocation was increased by the fact that a large proportion of the inhabitants had been engaged in the administration of the territories of the Empire, which no longer, for Vienna, existed. One example will illustrate the impossible situation: Vienna had been the centre from which railways branched out all over Central Europe, but these railways were now for the most part in the hands of the succession states, and Austria herself was left with the least economically profitable portion, the lines going through the mountains, as well as a large surplus personnel.

It was therefore logical, with the Court



Österreichische Lichtbildstelle

The Socialists also started the building of colonies of handsome single houses, each designed for one, or two, working-class families, such as the Tivoli colony on the rising ground behind Schönbrunn



John Lehmann

The abundance of flower-crammed window-boxes is an attractive feature of the post-war tenement houses

abolished and the bourgeoisie crippled, that the next development of Vienna, if it was not to fall into complete decay, could only come from, and for, the working classes. Moreover, the triumphant Social Democrats, who, though they were in a short while to lose control of the Republic as a whole, maintained themselves in Vienna right up to the collapse of 1933-4 with a firm two-thirds majority at the polls, showed themselves more dynamic and more radical than their German brothers. Their sphere of government was more than merely municipal, as Vienna was now made into a separate federal state of the new Republic. The pressure of the masses demanding more power and a better life was immense, and their leaders developed plans on a correspondingly impressive scale.

The significant part of these plans, as far as Vienna's bodily appearance is concerned, was the tremendous attack on the slums and, in a lesser degree, the creation of ample and pleasantly designed public bathing-places in many of the parks and on the outskirts of the city, the children's free baths (*Kinderfreibäder*) being now one of the most attractive features of Vienna in summer. The municipal tenement houses, with their accompanying kindergartens and playgrounds, are, however, the most concrete and imposing mark of the Social Democratic period. Up to 1934, that is in fifteen years, the municipality built 52,000 new flats and 8000 small separate houses to house 180,000 people, or one-tenth of the total population, 87 per cent of whom were workers. The rents were extremely low, covering in fact little more than the

administration and maintenance, for there was no interest to pay as the money was raised by special luxury taxes. The work was divided among a large number of architects, but the general effect, in spite of considerable variety of detail in form and colour, is one of unity. This is mainly because certain features are to be found in all: the tree-and-flower-filled courtyards, the arrangement of the wings to allow a maximum of light for each flat, the unornamented surfaces broken by a clever arrangement of balconies that are filled with plants. Moreover only 30 to 40 per cent of the building area was actually built on, while previously private enterprise had built as close as possible to the legal limit of 85 per cent. These tenement blocks, though only a part of what the Socialists intended to put up if they had stayed in power, have changed the look of the outer working-class districts as fundamentally as

the buildings of Franz Josef's reign changed the Ring, or Baroque the Inner Town, and have given them their equivalent dignity. On parts of the Gürtel they run in an almost continuous line, making a proud and handsome effect. The creative hand of the Socialists scarcely reached into the inner districts. This way in which the tenement blocks form a wide belt, running over the Danube to Floridsdorf and Kaisermühlen, round old Vienna—bourgeois and aristocratic Vienna, the seat of the Executive—together with the defensive tactics adopted by the Socialist leaders, was to play an important part in the upheavals of 1934. Their geographical concentration undoubtedly helped the Executive to win their victory.

It is not, however, the buildings on the Gürtel and elsewhere, which are dovetailed into old blocks, or the charming colonies of single-family houses, that give the most

The opening of a new block was often a festal occasion, where the unity in Socialism of the factory-worker, the peasant, and the white-collar worker were symbolized in striking tableaux vivants



John Lehmann



John Lehmann

The Engels Hof, the last the Socialists completed before their defeat in 1934, is even larger, though more severe in style, than the huge Karl Marx Hof. Only a few yards away, the new (Catholic) Government has built the small, simple Home of St Brigitta, for totally unemployed families

John Lehmann





Österreichische Verkehrswerbung

The ancient Capucin Church has been newly embellished with a monument to Marcus of Aviano



Österreichische Lichtbildstelle

Since the War swarms of tiny country and 'week-end' houses have spread out from the town. Here, in the north-west, they are climbing over the nearest hills of the Wiener Wald

direct impression of what this period meant, but the separate giant complexes such as Karl Marx Hof, the Goethe Hof or the Engels Hof, which are almost like towns complete in themselves. The Karl Marx Hof, for instance, has its own communal steam laundries and baths, its own kindergarten and lecture-rooms, besides a large Workers' Library and a row of shops on the ground floor on one side. The Engels Hof, which is even vaster, is more severe in style, a sign perhaps that as the economic crisis deepened and the political crisis developed from it, aesthetic considerations of detail were giving way to the sheer need to rehouse as many people as possible as quickly as possible. This housing policy could fruitfully have continued for many years to come, in view of the still high percentage of overcrowding revealed by the recent census. But the Engels Hof was the last great tenement block to be opened

by the Social Democratic government of Vienna.

When, after a long, strained period of political retreat, the workers finally stood their ground against the forces led by Dollfuss, and made a revolutionary bid to save their power in February 1934, it was round these tenement houses that the most severe fighting took place. The heavy artillery employed by the Executive did considerable damage to some of them, but when order had been restored this was hurriedly repaired, and there is little outward sign on them now of those terrible days, except here and there clusters of white patches where the holes caused by rifle and machine-gun fire have been plastered over. The supersession, however, of the Social Democrats, after the military defeat, by a Heimwehr and Christian Socialist administration, meant the end of the great housing schemes. Rents have been raised,

sometimes by as much as 80 per cent, but many of the luxury taxes which provided the funds have been abolished, and the income from certain new mass taxes which have been introduced is absorbed in other ways: in the heavily increased police expenses, for instance.

The new Government, of a Vienna which has lost its position as a separate federal state, has directed its energies elsewhere. For its predecessor the dominant idea was to make Vienna a city of glad and healthy working masses, and the submerged elements of the long unemployed and unemployable were comparatively neglected. It is precisely with these elements, which have considerably increased with the advance of the crisis, that the Christian Socialists, in true Catholic fashion, have begun to occupy themselves. A stone's-throw from the enormous complex of the Engels Hof lies now the simple, three-storey Familien-Asyl of St Brigitta,

the first of a series of charity homes which it is hoped to complete if finances permit. They have also endeavoured to encourage the growth of settlements for unemployed on the extreme outskirts of the city, where each family can have a small house and enough land to be practically self-supporting. The emphasis on the individual family and the acceptance of unemployment as a lasting condition are both significant. In another way they have assisted new building by the creation of a subsidy fund for the pulling down of dilapidated houses and the erection of modern blocks in their place. This work of course is carried on through private enterprise, and the rents are scarcely within the means of any of the workers except the most highly paid. The fine new Höhenstrasse, designed with an eye to attracting foreign tourists, which leads up from Grinzing to the wooded heights of the Kahlenberg, and will eventually stretch on



Österreichische Verkehrswerbung

The fine new Höhenstrasse, the first section of which was completed last year, leads out to the spurs of Kahlenberg and Leopoldsberg, with magnificent views over Vienna and the Danube



John Lehmann

The shady 'Heustadlwasser' is one of the charms of the extensive meadows of the Prater



Österreichische Verkehrswerbung

*As a popular playground and permanent amusement park the Prater has no equal in Europe.
On Saturdays and Sundays in summer all Vienna is there in holiday mood*

to the Leopoldsberg, is a further project which has received the new régime's particular attention.

Only about one quarter of modern Vienna's 110 square miles is composed of houses and streets. The rest is a mixture of wooded hills, agricultural land (over 30 per cent), gardens and meadows. It is this which gives Vienna its special charm. There is no great city in Europe which is more countrylike in summer, and perhaps no more lovely park than the Prater, among whose meadows, dense with chestnut and acacia trees, there are natural stretches of water for boating, as well as shady restaurants, a complete amusement park, elaborate bathing establishments, race-courses, a huge stadium and a golf-course. Further out, between the Danube and the still waters of the Old Danube, and beyond in the fields that lead towards Aspern and

the Lobau, a vast number of little 'week-end houses' and settlements independent of those the Government have fostered have sprung up since the war, some for the richer, some—little wooden shacks with a tiny garden apiece—for the poorer classes. They are to be found also stretching away into the hills on the western side by the Wiener Wald, and, though the speed of construction has slackened during the crisis, they are still creeping over the open spaces. Nevertheless, there is a comparative pause in Vienna's evolution at present; for the future one can only say that, unless this lovely city is reduced to smoking ruins in company with most of the other capitals of Europe, the time will certainly come when the energies and artistic gifts of its people will again be able to manifest themselves in extensive town-planning and architectural changes in a new historical phase.

A Korean Journey

by G. V. HETT

The northern parts of Korea are seldom visited by Europeans, and exceptional interest, therefore, attaches to Mr Hett's description of the country, to which he recently made three separate trips in order to collect mammals for the British Museum (Natural History), and of the peasants, trappers and root-searchers whom he there encountered

THE peninsula of Korea or Chosen thrusts itself out into the sea as though it were trying to escape the turbulence of Asia: and for centuries its rulers tried to seclude their country from contact with strange nations. Today the country serves as a corridor between Japan and the Asiatic mainland, and only a few of the passing travellers stay for a short time at the capital Seoul (Keijo), or make a trip into the Keumgangsán (the Diamond Mountains). Perhaps it is Korea's nearness to the centres of activity in the Far East that makes it the less conspicuous, or perhaps a long period of isolation has left its impress; for in spite of roads, railways and telephones the country remains curiously aloof and relatively unvisited.

Korea falls naturally into two parts, the southern part or the peninsula proper, and the northern section, which is a continuation of the Asiatic mainland, the two por-

tions being joined by a narrower strip of land. This division is more than one of mere geographical convenience: it marks a difference in the country and in the type of animals found there.

The southern portion of the peninsula is the best known, since it was the centre of the past civilization, and has also been the more developed in recent years. It is a country not without charm, particularly in the early morning and the evening when the play of light over the hills and on the clouds blends colour and form into a decorous landscape. The effect in full light is not so charming, as then the bareness of the hills is revealed, for Korea, like much of the East, has suffered badly from indiscriminate woodcutting. The long ranges of granite hills, which extend down the length of the peninsula, have been mostly shorn of their forests, with the result that they have also been denuded of their soil which was left unprotected from the heavy summer rains. Cultivation in the valleys has suffered in consequence from the amount of decomposed granite which has been washed down, impoverishing the soil. The evil has been checked by the Japanese since they took over the country and adopted heroic measures of afforestation, but much of the ground now allows little growth except dwarf pine, and it seems doubtful if any but a small proportion of the damage can be repaired.

The slow decay of the Korean civilization has been variously ascribed to the loosening of the ties with the Chinese Empire from which its culture was derived, to inbreeding, climatic conditions and an unrelieved rice diet; but, if soil impoverishment be an important cause





All photographs by G. V. Hett

The principal road to the upland country in the north of Korea leads to the little town of Chang-jin, which lies in the centre of a mountainous area with a scattered agricultural population

of a country's decline and fall, Korea might well be taken as an example, since the peasants of the north, where much of the forest still remains, are considerably hardier and more energetic than those of the south.

I had some opportunity of comparing the two districts as, after an enforced stay of some weeks in Seoul, my wife and I made three separate short trips into the north for the purpose of collecting mammals.

Our first starting point was the little town of Chang-jin (Chosin). This town was reached by a night's journey by rail from Seoul to Hamheung (Kanko) and a day's journey by car northwards from Hamheung. I was surprised to find that—in spite of the fact that there were a number of cars, vans and lorries on the road, and a large hydro-electric station in the

course of construction midway between the two towns—many of the people had never seen Europeans before. The north central part of Korea is far removed from the European spheres of influence, which are mostly concentrated near the mining concessions, the big towns on the coasts and along the main lines of communication.

From Chang-jin we journeyed two days eastwards with ponies into one of the ranges of hills. The contrast between this country and the south was remarkable. There are the same monotonous granite hills that seem to shut in the valleys, the same grey and dull red of the granite and the same rivers winding round the same unvarying spurs, but the steep slopes of the hills are thickly wooded with pine, fir and birch.

Although the country is less thickly



From Chang-jin the journey eastwards is made along valleys, shut in by steep, thickly wooded hills, up roads sometimes lying between fields of opium poppies (above) and beside shallow rivers



The rivers have often to be crossed, which entails unloading the baggage from the backs of ponies or mules into dug-out canoes



Along these rivers primitive gold-washing is carried on. Alluvial gold is found all over Korea and the peasants form groups to work it; it must, however, all be sold to the Government



A Korean house with the characteristic loosely laid timber roof. The chimney and the fire are at opposite ends of the house, the flue passing right under the floor and so warming it



In the mountains east of Chang-jin. The sides of the hills are too steep for cultivation so the peasants supplement their fields in the valleys by tilling portions of the tops of the ridges



The Koreans are good agriculturists, though they have not the advantage of modern machinery. They harvest their corn with crude wooden-handled iron sickles



As there is no water at the tops of the mountains they live in scattered farmsteads down in the valleys, with their sheep, chickens and pigs, and have to climb the steep and wooded slopes to work the upper fields



In the valley. A Korean standing with his grandchildren before his house. The latticed doors have a thin translucent paper covering; stones keep the shingled roof in place



A mother and child. The Koreans vary in facial type; some are Chinese-looking, some Mongolian, while others, like these, resemble the Burmese, to whom, some say, the Koreans are related

populated than the south, there are small villages placed at intervals along the main valleys where the paths run, and usually at least one village in each subsidiary valley. The people live by farming and gold washing, and white-clad Koreans work on the fields near the villages and at sluices in the shallow rivers. Cultivation is carried on mainly in the valley bottoms where the ground is level; but where the population has increased the ground is also tilled on the sheltered portions of the hill-tops, the intervening slopes being generally too steep to be worked. The upper fields are usually situated about a thousand feet or so above the villages which lie in the valleys below.

The houses are of the same type that are found all over Korea, very different from the mud huts of the Chinese coolies or the

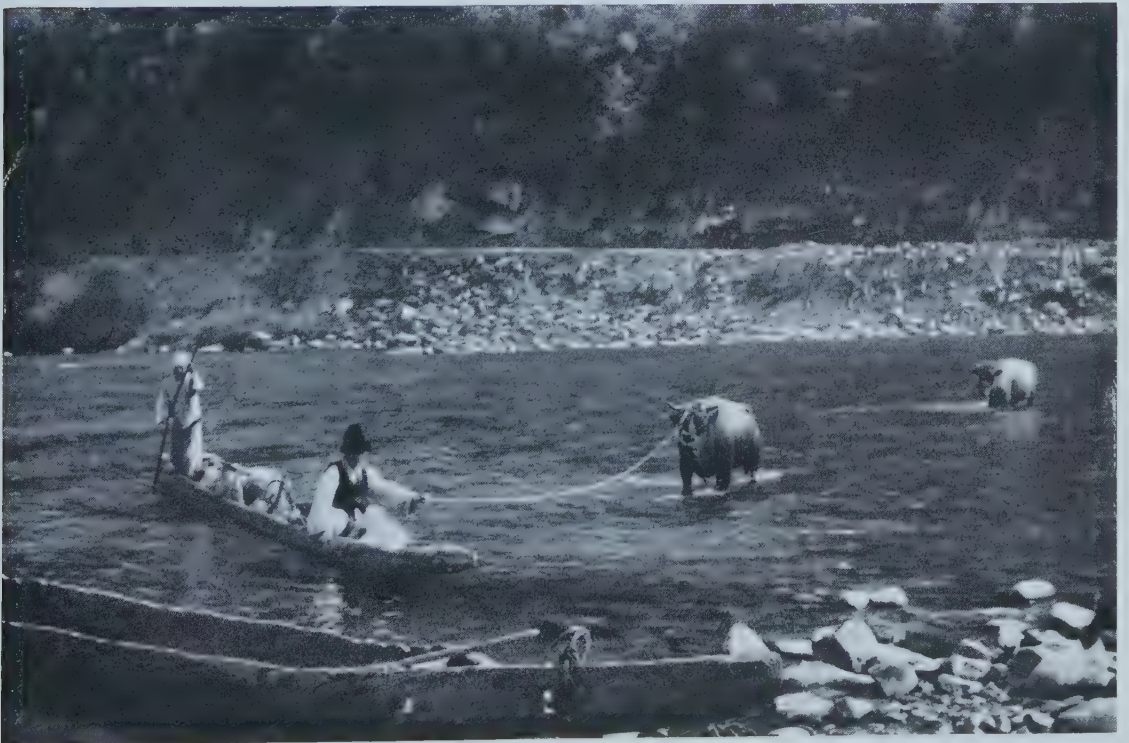
lightly built structures of the Japanese. The Korean house is a solidly constructed building of one storey and two or three rooms: it is timber framed and roofed with thatch of wooden boards. One of the end rooms is used as the kitchen and one end of it is sunk about eighteen inches below the general level of the room so that the heat and smoke can be led away under the floor to a chimney on the other side of the house, thus heating the rooms with the minimum waste of fuel and effort. This traditional style of building is a tribute to the Koreans' past ingenuity, as are the cleverly constructed water-wheels and grain-pounders—that are found in most villages; the grain-pounders are particularly ingenious, as they pound the grain without effort on the part of the Koreans—though also without regard to time.



The Koreans have shown considerable ingenuity in making the water-wheels used for grinding corn. The water is diverted from a stream through a hollow log which sends a strong flow on to a notched wheel and causes it to revolve



*Returning through the valleys to Chang-jin with a caravan consisting of a bull, a cow and a pony.
The Koreans use cattle only for draught purposes and never for milking*



Leading the bull across a stream with the cow following: the baggage is being taken across in a dug-out canoe

We stayed in several villages during the period of travelling, when we had neither the time nor the opportunity to make use of tents, and found the local inns clean, provided one did not look too closely into details, and comfortable, except when one struck a house that was verminous. Speaking generally, we found that the houses in the country were tolerable, and their warm floors were a welcome luxury when the nights were cold; but the town hostels often harboured swarms of the most voracious bugs.

It is customary throughout Korea to be given accommodation and to pay only for the food consumed, though since we preferred to substitute our own stores for the monotonous diet of rice and pickles, we usually paid something for our lodging in addition to the food supplied to our men.

At first it seemed ideal that the men should prefer to live on rice; it was cheap and easy to procure, but I soon learned that it possessed one great drawback, and that is the time taken in its preparation and consumption. A large bowl of rice impeccably prepared and suitably garnished with pickles, which act as a gastric stimulant and an aid to digesting this glutinous mound, takes forty minutes to prepare and, if the Korean had his way, another forty minutes to eat and a third to digest. Since Koreans need three rice meals a day, and also loathe rising early, they need continued badgering when there is work to be done.

My men were particularly bad in this respect, but I had brought them from the south, which was a serious mistake. The southern Korean is much less vigorous than the northern, and usually regards any hardship with the most lugubrious face: in addition he usually looks down upon the northern peasant, more particularly if he himself comes from Seoul or some other big town. The question of an interpreter is a particularly difficult one, as it is necessary to find one who can speak

English, Japanese and Korean, and those who can do so are usually strongly averse from any form of discomfort and prefer jobs in the towns.

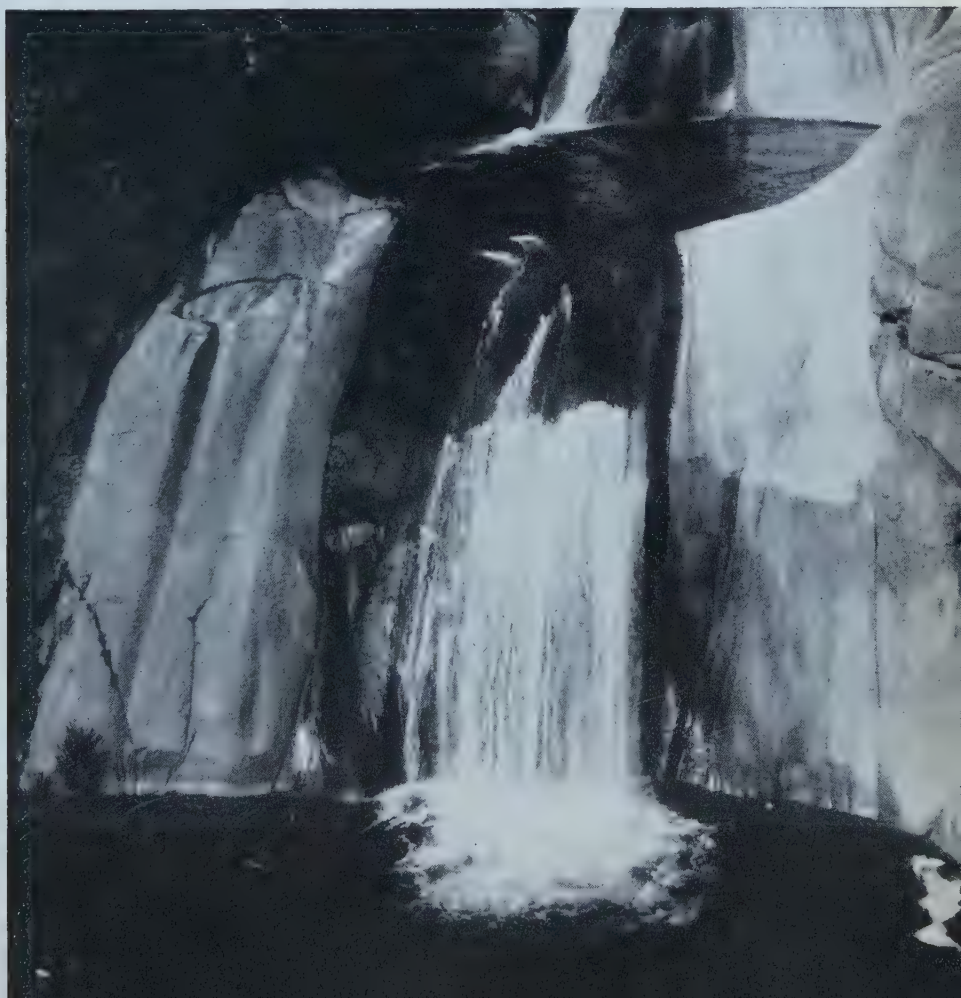
I set my southerners to work on trivial tasks and hunted myself with a local man who had little knowledge but great enthusiasm, and who outshone the others by being able to walk without needing frequent rests. Our success was scant, as might be expected, particularly as the leaves were not yet off the trees and the woods were so thick as to make 'still hunting' virtually useless, and dogs were unobtainable locally. 'Still hunting' is hunting through woods either alone or accompanied by one guide—a method by which the animal has the advantage, since its hearing is usually more acute than the hunter's sight. We were able, however, to make certain that the northern type of fauna existed here and to trap some of the smaller mammals.

The journey back was not so easy to accomplish. We had come out from Chang-jin with ponies for our baggage, but the pony-men had been dismissed on our arrival and had returned home. At first it seemed impossible to procure any animals locally, but at last we managed to hire one pony, a bull and a cow. I had some difficulty in hiring the cattle; for although they were draught animals, as are all the native herds, the Koreans have a strange reluctance to let them go any distance: indeed they treat their cattle most tenderly, which is the more surprising as nearly all their ponies are kept in vile conditions, badly fed and with sores that are never allowed to heal.

But though the cattle are most admirable animals in many respects they are a poor substitute for ponies as transport. The bull was wilful and pulled his hapless attendant roughly about the country while the cow, though of a ladylike temperament, was as slow as only a cow can be. In order to cover the distance back within two days we had to travel part of the night,



A panorama further north in the eastern coastal range, not far from Seishin. The mountains here are higher, often rising to seven or eight thousand feet, and are practically uninhabited. The streams are livelier than those to the south, cascading down the steep slopes in little falls. A pot-hole so perfectly shaped as this (below) is not often found in hard granite





Some lumbering is carried on in these mountains, although the trees—here largely larch and pine—are usually too small. Photographed early in October after the first fall of snow

a feat which made the Koreans seem heroes in their own eyes.

We determined to make our second attempt in the high eastern range which runs down the length of the peninsula, choosing a spot a little below the town of Seishin. We were accompanied by a mixed party of Russians and Koreans numbering ten in all, since the last stages had to be made on foot, and carrying our tents and equipment.

The eastern range differs from the others on account of its height. A large number of the peaks reach six thousand feet, some of them seven or eight, and the additional height at this latitude gives a greater variety of scenery. Thick woods of oak and birch cover the lower slopes, to be superseded by conifers which in turn give way to the moss and lichens of the boulder-strewn tops. The streams are more lively than those further west, flow-

ing down steeper slopes, tumbling and cascading in a series of small waterfalls and rapids down to the main stream in the long, flat valley below.

The hill slopes are covered with numerous granite pinnacles that thrust their way up through the screen of trees and afford refuge to goral and musk deer. Unfortunately the snow fell early, on October 5, driving the animals down to the shelter of the crags and crannies of the lower pinnacles, which were surrounded by thick shrub and bush. Here it was almost impossible to find them, even with the aid of dogs.

As a recompense for the time spent in these mountains we were rewarded with a few small mammals and a great deal of attractive scenery. The snow on the tops shone out in dazzling contrast to the sombre green of the pines and fir woods, which in turn graded into the autumnal colouring of the valleys. Everyone in

Korea grows lyrical over the autumn tints and it is a common experience to see people with great bunches of leaves, though the colouring falls far short of that of Canada and lacks, particularly, the vivid splashes of the scarlet maple.

Although the weather conditions reduced our chances of success, the chief causes of our failure to obtain specimens of the larger mammals were the extensive hunting and more deadly trapping that have been carried on. Chinese medicine is based largely on concoctions in which parts of animals as well as roots are used, and the steady demand for these natural ingredients has led to a systematic hunting and trapping which is carried on almost without check. Stags' horns in 'velvet' and tiger bones are among the most valuable remedies but nearly every animal has some part that will fetch a price sufficient to encourage the hunter, and many species are now threatened with extinction.

The medicine trade is one of the oldest and most deeply rooted traditions in the country; among the peasants it brings out all their latent pantheism and their shamanistic beliefs, and it is common to come across small shrines built to the local spirits. These shrines contain pieces of red silk left there by hunters, white silk which is the contribution of the trappers, pieces of paper deposited by root searchers and stones thrown in by passers-by who have a feeling that it is as well to be on the safe side. In the town the medicine shops are often decorated with paintings in the traditional style and the arrangement of the windows shows a degree of artistry and imagination that is absent from most of the other native shops, as though the last remains of an indigenous culture clung to this ancient trade.

Pottery, in which the Koreans once were pre-eminent and in which they excelled the Chinese, notably in the production of 'Celadon' ware, unhappily declined until, at one time, pickle jars were the chief product. Recently the art has received

an impetus from the Japanese, who are anxious to revive the former arts where possible. On our return from the mountains we came across one of the queerly shaped kilns in operation near Seishin.

Our third and last journey was made in the extreme north of Korea on the Manchurian border. Here we made our headquarters at the little village of Nojido, which lies some three miles from the Tumen River and is the last settlement before the uninhabited country that surrounds the extinct volcano of Paiktusan. Keeping this hamlet as our base and using a pony to transport our equipment to



By the paths are many shrines. Most of them are animistic—dedicated to the spirit of the place; a few are Confucian. The ordinary wayfarer leaves his offering indiscriminately, whatever his professed belief



Pottery is an art in which the Koreans once excelled even the Chinese. It declined, but the Japanese are reviving it, though rough pickle jars like these are still the chief local products



One of the queerly shaped pottery kilns which are still in use near Seishin. The fire is at the narrow end



Looking from north Korea towards Manchukuo over the dividing valley of the Tumen River. This part of Manchukuo is a 'no man's land'; armed police patrol the river against bandits



At Nojido on the Korean side of the Tumen. A peasant, wearing one of the remarkable Korean hats, is dressing a boarskin outside his house while a hunting party prepares for departure



Reloading a pony, during a hunting expedition into Manchukuo, beside a trapper's hut in a forest further up the Tumen. A dead roe-deer lies in the foreground

various small huts, or taking tents where necessary, we were able to cover a fair amount of ground on both sides of the border during our three weeks' stay.

This country is very different from the rest of Korea and is much more like Northern Manchukuo and the Maritime Province of East Siberia (Primorskaya). The general level of the country is higher than that of Korea but there are not the same ranges of hills. Paiktusan and its satellites stand out high above the surrounding country. A great deal of this difference is due to outpourings of lava, the pumice and basalt of which the country is composed taking the place of the inevitable granite and producing a very different type of scenery, flatter and with more rounded hills.

Larch trees are abundant while pine and fir are rare in this district. The southern slopes of the low hills are covered with

groves of small oak trees; the north sides have thick woods of birch, which make the country resemble the Siberian *taiga*. Between the low hills there are broad marshy valleys of muskeg which provide excellent feed for wild animals.

The country has a more continental climate than the rest of Korea and most of the leaves had already fallen when we arrived at the end of the second week in October. The snow, however, did not fall until after we had left and only Paiktusan and its two attendant peaks were mantled with white. At this season 'still hunting' is impracticable owing to the thick carpet of dead leaves which rustle noisily underfoot, and, although it is possible to surprise roe-deer in the more open parts of the oak woods or during their southward migration across the open valley of the Tumen, most of the hunting has to be done with dogs.



The parts of Manchukuo along the upper Tumen are largely composed of 'muskeg'—tussocky swamps—surrounded by low wooded hills. In this type of country the once common tiger is still chiefly seen



An encounter in a Manchukuoan oak wood. Left to right: a Korean, a Chinese salt-smuggler (any Chinese is regarded as a potential bandit) and an exiled Russian gold-pro prospector now turned hunter

The dogs are of no specified breed but vary considerably and show traces of Alsatian, Samoyed, Chow and, sometimes, of wolf in their ancestry: the method of hunting with them is common over North-eastern Asia but differs considerably from those of other parts of the world. The dogs are allowed to range free, ahead of the hunter, and they follow any fresh track quietly without giving tongue until they have caught up with and bayed their quarry. On hearing the sound of barking the hunter has to run towards it with all possible speed and as quietly as possible, which usually results in his alternately running like a hare and creeping like a cat. It is an exciting and uncertain sport, since the dogs may find their animal a long way from the hunter, and the visibility in the woods averages about forty yards.



A Korean hunting dog. The thickness in his right foreleg is due to a wound inflicted by a wild boar

We were lucky in having the use of two very good dogs which were owned by an old Russian hunter and gold prospector, who had escaped from the Soviet three years previously. He had worked for some years in Okhotsk mining for the Soviet; but as the old prospectors were gradually being replaced by young communists, and not only losing their work but also being sent to North Siberia or otherwise disappearing, he had procured a pony and made his way over the border. He had preserved part of his small stock of gold as fillings for his teeth, and he was always in a state of nervousness when we hunted or camped over in Manchukuo lest we should meet with bandits and he should have his teeth extracted.

The Russian's nervousness was reflected in most of the trappers and root searchers that we met over the border. Whereas in Korea any passing stranger would stop to chat and gape, the majority of those we met in Manchukuo would go out of their way to avoid us, and on two occasions I saw men turn and disappear over the hills at sight of us. The country used to have an evil reputation a few years ago, but since the spread of Japanese influence in Manchukuo the border police have been through this strip of country and turned out the fluctuating population of Chinese, who lived by root-searching, bark-peeling and growing opium poppy. Today the old huts and clearings are deserted except where Koreans have moved in to take the place of the departed Chinese, and during our time there we only came across one Chinaman, who was reputed to be employed in the harmless but illegal pursuit of salt smuggling.

This strip of country to the north of Paiktusan is the only area without settlements in Eastern Manchukuo and Northern Korea, and is one of the few places left where there is game in any quantity. The fact that bandits used to take tribute from hunters or rob them of their prized wapiti horns has done something to preserve the

The forests of the Manchukuoan borders are full of deserted dwellings, for the Japanese police are turning out the old floating Chinese population. This was a bark-peeler's hut. (Bark is used for wrapping corpses for burial)



Koreans are replacing the Chinese over the border. Root-searching is a common occupation among them and can often be very profitable. Some of the roots are exported to South China and used for purifying water. The prize is the ginseng root, the traditional tonic of the Mandarins



Though tigers are now becoming increasingly scarce, traps are still laid for them. They are baited with boar's meat, which, when touched, brings down the sliding door at the top. So terrified are the natives, that if a tiger is caught they will leave it in the trap until it starves to death





A young exiled Russian hunter with a boar he has just shot. The 'Chinese' dog behind was subsequently killed by a wounded boar

animal life; though now that this check is being removed it is doubtful if many of the animals will survive much longer. The long-haired Siberian tiger, which was once plentiful throughout the peninsula, still survives in this little-known piece of country and I did come across certain evidence of its existence in a patch of thick and tangled wood north of Paiktusan.

During this third and last of our trips we were able to make a better collection of mammals; there were plenty of roe-deer and boar and our collection of smaller beasts was increased by specimens that were brought in by Koreans. A large number of the local people lived by trapping and root-searching, and once they realized that we were mad enough to buy anything they brought, from mice to kolynsky, they set to work with an en-

thusiasm that was very different from the apathy shown in other districts where we had tried the same scheme without success.

At present this district is still full of interest both to sportsmen and naturalists, but it is not likely to remain so for long: animal life has already grown scarce and the unceasing toll taken by hunters and trappers and the steady increase in the population will certainly kill off, or drive away, many of the most interesting species. It seems the moment, if such a thing is possible, for Japan and Manchukuo to combine to create a park or game preserve which would be a sanctuary for many of the most interesting Asiatic animals. The country is suitable and the animals are there, but in a few years' time it will be too late.